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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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Claim 5; Page 141; 183pp; Japanese.

The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention

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plemen	7.	K, Na	ю косто	9JP-00278291 0JP-00105088	2000WO-JP006774.				complementarity	specific	t entry)		peptide;		214	204	181	180	164	150	146	134	133	116	113	108	50	14	1669
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complementation-determining region-transplanted against ganglioside GD3, useful in diagnosis and the complementation of the complementati		ıra K, Niwa R;	₹.	B					determining region;	antibody related peptide SEQ	-		5 AA.	ALIGNMENTS								ADB07668							
isplanted ai									CDR; ant	ID NO: 3					Adb10122	Aag66034	Aageeuze	Aag66027	Abg21786	Adb94081	Aao02622	Adb07668	Adb07674	Aag81907	Adb07666	Aac03855	Aab34620	Aam97232	Abb63980
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         AcpS; phosphopantethienyl transferase; antibacterial;
Helicobacter pylori; stomach cancer; ulcer; gastritis
                                              Staphylococcus aureus phosphopantethienyl transferase protein AcpS
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                                                                                                     AAB14979;
                                                                                                                               AAB14979 standard;
                                                                                                                                                                                                                                                                                                    Sequence 5 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 6; Page 98; 121pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
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            WPI; 2001-266143/27
                                   Hanai N,
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06-APR-2000; 2000JP-00105088.
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                                                                                                                                                                                                                                                                                                                                                                                          New human type complementation-determining region-transplanted antibody derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
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                                                                                                                              Sequence
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RESULT 6
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RESULT 7
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Matches 5; Conserv
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                                                                                                                                     Modified ganglioside GD3 antibody associated protein
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                                                                                Ganglioside
                                                                                                                                                                                                04-FEB-2003
                                                                                                                                                                                                                                                         ABU11010;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
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                                                                                   GD3; anti-ganglioside GD3
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Pred. No.
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                                                                                      tumour; melanoma.
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Matches 5
24-SEP-2001; 2001US-0324504P.
01-0CT-2001; 2001US-0326269P.
03-OCT-2001; 2001US-0326887P.
24-OCT-2001; 2001US-0339560P.
25-OCT-2001; 2001US-0337471P.
26-OCT-2001; 2001US-0340000P.
26-OCT-2001; 2001US-0340002P.
26-OCT-2001; 2001US-0340002P.
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5; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention describes a crystallised recombinant polypeptide (I) comprising amino acid sequence of polypeptides from Staphylococcus aureus, Streptococcus pneumoniae, Helicobacter pylori and Pseudomonas aeruginosa and which are involved in membrane biosynthesis, or amino acid sequences having at least 90 % identity with the polypeptide sequence, where the polypeptide is in crystal form. (I) has antibacterial activity and can be used in vaccines. (I) is useful for designing a modulator for the prevention or treatment of S. aureus, H. pylori, S. pneumoniae, and P. aeruginosa-related disease or disorder. (I) is also useful for identifying small molecules that bind to a recombinant polypeptide. The structural and functional information of (I) aid in the discovery and design of therapeutic and diagnostic molecules. The crystal structure is useful to make a structural or computer model of the polypeptide, complex or its portion. (I) can be used for inducing an immunological response in an individual and as an antigen for vaccination of a host to produce specific antibodies which protect against invasion of bacteria, for example by blocking adherence of bacteria to damaged tissue. ACF06185 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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Best Local
                                                                                                                                               Streptococcus pneumoniae; Helicobacter pylori; Pseudomonas aeruginosa; membrane biosynthesis; crystal form; antibacterial; crystal structure; immunological response; vaccination; ftsZ; fabZ; fabG; acpS; murD; mur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel crystallized recombinant polypeptides from Staphylococcus aureus, Streptococcus pneumoniae and Helicobacter pylori and which are involved in membrane biosynthesis, useful as targets for pathogenic bacteria.
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21-DEC-2001; 2001US-0344307P.
27-DEC-2001; 2001US-0343946P.
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Mcdonald M, Necakov S,
                                                                                          Staphylococcus aureus
                                                                                                                                                                                                       Crystallised recombinant polypeptide; Staphylococcus
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Houston S, Kanagarajah D, Li
Hg I, Pinder B, Sheldrick B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 28;
Pred. No.
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Pred. No. 79;
Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 119;
                                                                                                                                                                                                       aureus;
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                                                                                                                                                                                                           vaccine;
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WO2003027139-A2

24-SEP-2002;

2002WO-CA001443

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RESULT 10
ABU16272
ID ABU16
XX
ABU16
XX
AC ABU16
XX
DT 19-JU
DT 19-JU
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                                                                                                                                                                                                                                                                                                                                                                         The present invention describes a crystallised recombinant polypeptide (I) comprising amino acid sequence of polypeptides from Staphylococcus aureus, Streptococcus pneumoniae, Helicobacter pylori and Pseudomonas CC aeruginosa and which are involved in membrane biosynthesis, or amino acid sequences having at least 90 % identity with the polypeptide sequence, CC where the polypeptide is in crystal form. (I) has antibacterial activity cand can be used in vaccines. (I) is useful for designing a modulator for the prevention or treatment of S. aureus, H. pylori, S. pneumoniae, and CC aeruginosa-related disease or disorder. (I) is also useful for cidentifying small molecules that bind to a recombinant polypeptide. The structural and functional information of (I) aid in the discovery and CC design of therapeutic and diagnostic molecules. The crystal structure is cuseful to make a structural or computer model of the polypeptide, complex CC or its portion. (I) can be used for inducing an immunological response in CC an individual and as an antigen for vaccination of a host to produce specific antibodies which protect against invasion of bacteria. for cexample by blocking adherence of bacteria to damaged tissue. ACF06185 to ACF06232 and ABB3203 to ABB3333 represent sequences used in the
                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                   Query Match
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24-OCT-2001;
25-OCT-2001;
26-OCT-2001;
26-OCT-2001;
26-OCT-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel crystallized recombinant polypeptides from Staphylococcus aureus, Streptococcus pneumoniae and Helicobacter pylori and which are involved in membrane biosynthesis, useful as targets for pathogenic bacteria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2003-441048/41.
N-PSDB; ACF06197.
                                                                 19-JUN-2003
                                                                                                                                                                                                                                                                                                                                     Sequence 119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 84; Fig 27; 312pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Edwards A, Dharamsi A,
Canadien V, Domagala M
Mcdonald M, Necakov S,
Viola C, Wrezel O;
Antisense; prokaryotic essential gene; cell proliferation; drug design
                               Protein encoded by Prokaryotic essential gene #1799.
                                                                                                 ABU16272
                                                                                                                            ABU16272 standard;
                                                                                                                                                                                                                                                                                                                                                                 exemplification
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Domagala M,
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2001US-0326869P

2001US-0336887P

2001US-0339560P

2001US-0334000P

2001US-0340002P

2001US-034002P

2001US-034002P

2001US-034002P

2001US-0344007P

2001US-0343946P
                                                                                                                                                                                                                                                                       Conservative
                                                              (first entry
                                                                                                                            protein; 119
                                                                                                                                                                                                                                                                                                                                                                   the
                                                                                                                                                                                                                                                                                    100.0%; Score 28; DB 100.0%; Pred. No. 79;
                                                                                                                                                                                                                                                                                                                                                               present
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Houston !
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                                                                                                                                                                                                                                                                       <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                   invention
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                                                                                                                                                                                                                                                                       Mismatches
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RESULT

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                                                   Query Match
Best Local Similarity
Thes 5; Conserv
                                                                                                                                             The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression CC of the nucleic acid inhibits proliferation of a cell. Also included are: CC (1) a vector comprising a promoter operably linked to the nucleic acid compression is inhibited by the antisense compression is inhibited by the compoundation or the activity of a gene in an operon required for proliferation, (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway compounds a proliferation, or that inhibits cellular proliferation or the test compound that inhibits proliferation of an organism acts, (9) manufacturing an antibiotic; (10) profiling a compound's activity; (11) a culture comprising strains in which the gene compound that inhibits proliferation of an organism acts, (9) manufacturing an antibiotic; (10) profiling a compound that only the extent to which each of the strains is present in a culture or collection of strains; or (13) identifying the target of a compound that inhibits proliferation of compound that inhibits proliferation of compounds of the strains or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational conditions of an organism. The antisense nucleic acids required conditions of an organism or for screening homologous nucleic acids required for cellular proliferation in cells other than S. aureus, S. typhimurium, captained for proliferation in cells other than S. aureus, S. typhimurium, patent did not form part of the printed specification, but was obtained conditions, but was obtained conditions.
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Wall
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06-SEP-2001; 2001US-00948991.
25-OCT-2001; 2001US-0342923P.
08-FEB-2002; 2002US-00072851.
06-MAR-2002; 2002US-0362699P.
                                                                                                                                             Sequence 119 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New antisense nucleic acids, useful for identifying proteins or s for homologous nucleic acids required for cellular proliferation isolate candidate molecules for rational drug discovery programs.
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                                                                                                                                                                             ftp.wipo.int/pub/published_pct_sequences
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106 HYAMS
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Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 44196; 1766pp; English.
                                                                      Conservative
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Carr G
                                                                                       100.0%;
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                                                                                       Score 28;
Pred. No.
                                                                        Mismatches
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Yamamoto R,
                                                                                     рв
79;
                                                                                                        6; Length 119;
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Forsyth
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Xu HH;
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                                                                      Gaps
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CC encoding a polypeptide whose expression is inhibited by the antisense cc nucleic acid; (2) a host cell containing the vector; (3) an isolated converse for a cid; (4) an antibody capable of specifically binding captured for containing the vector; (3) an isolated converse for antisense nucleic acid; (4) an antibody capable of specifically binding confidence or the activity of a gene in an operon required for converse for proliferation or the activity of a gene in an operon required for converse for converse for proliferation, or that inhibits cellular proliferation; (7) identifying a compound that influences the activity of converse for proliferation, or that inhibits cellular proliferation of the biological pathway in which a proliferation required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a converse for a culture comprising strains in which the gene product lies or a gene or activity; (11) a culture comprising strains in which the gene converse for activity; (11) a culture comprising strains in which the gene converse for activity; (11) a culture comprising strains in which the gene converse for activity; (11) a culture comprising strains in which the gene converse for activity; (12) determining the extent converse for activity; (13) identifying the target of a compound that inhibits the converse for activity; (13) identifying the target of a compound that inhibits the converse for activity; (13) identifying the target of a compound that inhibits the converse for activity; (13) identifying the target of a compound that inhibits the converse for activity; (14) and the converse for activity; (15) and the converse for actional converse for activity; (15) and the converse for activity; (15) and the converse for activity; (16) and the converse for activity of converse for activity; (17) and the converse for activity; (18) and the converse for activity; (18) and the converse for activity; (18) 
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Wall
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits promoter of eall. Also included are:
(1) a vector comprising a promoter operably linked to the nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
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06-SEP-2001; 2001US-00948993.

25-OCT-2001; 2001US-0342923P.

08-FEB-2002; 2002US-00072851.

06-MAR-2002; 2002US-0362699P.
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Trawick JD,
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Carr GJ,
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Yamamoto R,
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Forsyth
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Xu HH;
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Sequence 119

AAR33256

protein; 130

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RESULT 13
AAR33256
ID AAR33
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AC AAR33
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Best Local S
Matches 5
                                                                                                                                                 Matches
                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                     The invention relates to novel genes and encoded proteins from Staphylococcus aureus. A composition comprising the S. aureus protein, a nucleic acid encoding the protein, or an antibody to the protein, is useful as a pharmaceutical, particularly as a vaccine for treating or preventing infection due to Staphylococcus bacteria, specifically an infection caused by S. aureus. The composition is particularly useful for treating or preventing sepsis in a patient. The composition can also be used for diagnostics. The protein is also used in an assay for enzymatic studies and as a target for antibiotics. This sequence represents one of the novel S. aureus proteins of the invention
                                                                                                                                                                                                                                                                                                                                                                                    New Staphylococcus aureus protein, useful as a vaccine for treating preventing Staphylococcal infection, specifically an infection cause S. aureus, e.g. sepsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Staphylococcus aureus.
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                                                                                                                                                                                                Sequence 119 AA;
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                                    AAR33256 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Masignani V, Mora M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-MAR-2001; 2001GB-00007661
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DB; ACF73359.
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د.
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Pred. No. 79;
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RESULT 14
AAR53341
ID AAR53
XX AAR53
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XX 18-NO
DT 18-NO
CX MONOC
CX MONOC
CX MONOC
CX CONST
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                                                                                                                                                                                                                                                                                                      Query Match
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                                                                                                                                                                                                                                                                                                                                                                                      The sequences given in AAR33256-57 represent rat heavy and light chain variable regions respectively. The DNA sequences encoding these proteins were used in the construction of humanised chimeric antibody expression vectors. In these humanised antibodies none of the amino acids of the non rhuman animal Ab variable region have been changed. (Updated on 25-MAR-
                                                                    Monoclonal antibody; Ab; ganglioside GM2; chimera; chimeric antibody; expression vector; heavy; light; chain; hypervariable region; CDR; constant region; hybridoma; Ig; immunoglobulin; promoter; enhancer.
                                                                                                                                                                                                                                                                                                                                                      Sequence 130 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 6; Page 29-30; 63pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Humanised chimeric antibody prodn. against ganglioside GD3 cancers, such as melanoma, neuroblastoma, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1993-095510/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-SEP-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-SEP-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Promoter; variable; region; rat; immunoglobulin; heavy; H; chain; humanised; chimeric; antibody; expression vector.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-MAR-2003
12-JUL-1993
                                                Mus musculus.
                                                                                                                    KM641 L chain variable region.
                                                                                                                                            18-NOV-1994
                                                                                                                                                                                                                                                                                                                                                                             2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Peptide
           Peptide
                                                                                                                                                                                           AAR53341 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (KYOW)
                                                                                                                                                                                                                                                                                                      Local Similarity
nee 5; Conserv
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                                                                                                                                                                                                                                                                                                       Conservative
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(first entry)
                                                                                                                                           (first entry)
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                      Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                           protein; 130 AA
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                                                                                                                                                                                                                                                                                                      Score 28; DB
Pred. No. 87;
0; Mismatches
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87;
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                    WPI; 1999-468416/39.
N-PSDB; AAX99482.
                                                                                                                                                                                                                                     pKM641 HA3 immunoglobulin heavy chain
                                                                                                                  07-JUN-1995;
                                                                                                                                                                                Mus sp
                                                                                                                                                                                                     antibody; nucleotide; genomic; hypervariable region; chimeric;
light chain; amino acid.
                                                                                                                                                                                                                                                           04-NOV-1999
                                                                                                                                                                                                                                                                                AAY28369;
                                                                                                                                                                                                                                                                                                    AAY28369 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 130 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 2; Page 116-117; 191pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Humanised antibody specific for ganglioside GM2 - used for producing a cytocidal effect on cancers such as melanoma, neuroblastoma and glioma.
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                                                                                             07-SEP-1993;
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                                                                       (KYOW ) KYOWA HAKKO KOGYO KK.
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Similarity 100.0%;
5; Conservative 0
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                                                                                                                  95US-00483528.
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Pred. No.
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Chimeric human antibody expression vectors.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This immunoglobulin region was isolated from pKM641HA3. This sequence has no methionine initiation codon and the leader sequence was partly lacking. The chimeric human antibodies are useful in the treatment of cancer, especially that which is of neural ectodermal origin. In contrast
The present sequence is a murine immunoglobulin heavy chain variable region from plasmid KM-641. The coding sequence was used in the creatic of an expression vector, along with the sequence for a human antibody, produce humanised chimaeric antibodies, which can be used to treat cancer. Humanised chimaeric antibodies are more effective than mouse antibodies as they do not provoke a reaction in the human and side
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 130
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                                                                                                                                                                                Claim
                                                                                                                                                                                                                              ganglioside and
                                                                                                                                                                                                                                                      New humanized chimera antibody KM-871 useful for treating cancer, comprises variable region of mouse monoclonal antibody, reactive with
                                                                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-SEP-1991;
18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-SEP-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        (KYOW)
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                                                                                                                                                                                                                                                                                                                                2000-402204/35.
DB; AAA51003.
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                                                                                                                                                                                Page 27-28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              antibody.
                                                                                                                                                                                                                                                                                                                                                                                                     Hanai N,
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92EP-00116026.
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                                                                                                                                                                                                                                 human
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Pred.
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87;
                                                                                                                                                                                                                                 region.
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                                                                                                                                                                                                                                                                                                                                                                                                               The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ganglioside
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                                               ABU11002
                                                                                                                                                                                                                                                                                                                                               Sequence 138 AA;
                                                                                                                                                                                                                                                                                                                                                                                              of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 1; Page 138-139; 183pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
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                                                                                                                                                                                                                                                                                                                                 Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
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23-AUG-2000; 2000US-00649167.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 156 AA;
                                                                                                                                                                                                                                                                    Hyperthermophilic archaeon; hyperthermophilic protein.
                                                                                                                                                                                                                                                                                                                                                                            AAB96839;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain
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                                   (CNRS ) CNRS CENT NAT RECH SCI.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention relates to the genomic sequence of Pyrococcus abyssi (see AAF86431 and AAH41233-7) and P. abyssi proteins. P. abyssi a hyperthermophilic archaeon, which is isolated from deep-sea hydrothermal vents. The present sequence is one such P. abyssi protein. The proteins of the present invention have various potential industrial uses, since the proteins are stable at very high temperatures, some up 110 degrees centigrade. Note: This patent is in the same patent family w0200065062, which contains additional sequences as shown in AAB99132-AAB99143, AAH75903-AAH75920 and AAG66436
This invention relates to a novel method for targeting disruption of an arbitrary gene in a genome of an organism which comprises providing the whole sequential data of the genome of such organism, selecting at least 1 arbitrary region in the sequence, providing a vector that contains a sequence homologous with the selected region and a marker gene, transformation, and homologous recombination. The genome is preferably
                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene disruption; gene targeting; marker gene; transformation; homologous recombination; hyperthermostable archaebacterium; KOD1; gene structure; gene function; enzyme activity; medicine; forensic science; food; drug inspection; molecular biology; immunology.
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                                                                                                               Claim
                                                                                                                                                          Method for disrupting targeted gene in genome thermostable bacterium and with genome chips f
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                                                                                                                                                                                                                                                                                                                                                                                                    WO2004022736-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Thermococcus kodakaraensis KOD1 protein sequence SeqID751
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                                                                                                                                                                                                                                                                                                                                                                     18-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                   Thermococcus kodakaraensis.
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                                                    The invention relates to Pseudomonas aeruginosa polypeptides and the polynucleotides encoding them. The sequences are useful in diagnosis and therapy of pathological conditions, as molecular targets for diagnostics, prophylaxis and treatment of pathological conditions resulting from a bacterial infection, for evaluating a compound, such as a polypeptide, for the ability to bind a P. aeruginosa nucleic acid, as components of effective antibacterial targets, as respect for antibacterial drugs, including anti-P. aeruginosa drugs, as templates for recombinant production of P. aeruginosa-derived peptides or polypeptides, as target components for diagnosis and/or treatment of P. aeruginosa-caused
                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel isolated nucleic acid encoding Pseudomonas aeruginosa polypeptide, useful as molecular targets for diagnostics, prophylaxis and treatment of pathological conditions resulting from bacterial infection.
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      infection,
of Pseudomo
                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; SEQ ID NO 20338; 455pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABO84396 represent P. aeruginosa polypeptides of the invention. Note: sequence data for this patent did not form part of the printed specification but was obtained in electronic format from USPTO at segdata.uspto.gov/sequence.html
  AAB81991 standard;
                                                                                                                                                                The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                  Hanai N,
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06-APR-2000; 2000JP-00105088.
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                                                                                                                                          Sequence 582
                                                                                                                                                                                                                                  Claim 41; Page 168-172; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                              29-SEP-2000; 2000WO-JP006774
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3.9e+02;
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RESULT 25
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                                                                                                  Human; cytokine; cell proliferation; cell differentiation; gene th vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorder; arthritis; inflammation.
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 05-FEB-2001; 2001WO-US004098
                          09-AUG-2001
                                                   WO200157190-A2
                                                                                                                                                              Human protein SEQ
                                                                                                                                                                                       06-NOV-2001
                                                                                                                                                                                                                 AAM79111
                                                                                                                                                                                                                                         AAM79111 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 39; Page 175-179; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-266143/27.
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06-APR-2000; 2000JP-00105088
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5; Conserv
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                                                                                                                                                                                                                                                                                                                                                      100.0%; ilarity 100.0%; Conservative 0,
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                                                                                                                                                                ID NO 1773.
                                                                                                                                                                                                                                         protein; 1268
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                                                                                                                                                                                        entry)
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                               exemplification
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                                                                                                                                       gene therapy;
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AAM80095
ID AAM80
XX AAM80
XX AAM80
XX O6-NO
XX Human
XX Human
XX Human
XX Human
XX Homo
XX Vacci
KW tissu
KW nervc
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Best Local Similarity
Matches 5; Conserv
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Ma Y,
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15-SEP-2000; 2000US-00663561.
20-OCT-2000; 2000US-00693325.
30-NCV-2000; 2000US-00728422.
                                                                                                                                                               Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy med factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorder; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nucleic acids encoding polypeptides with cytokine-like activities, useful in diagnosis and gene therapy.
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19-JUL-2000;
 03-FEB-2000; 2000US-00496914
                                                                                                                                                                                                                                                                                 06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1268 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: Records for SEQ ID NO 2110 (AAK52581), 2111 (AAK52582) and 3666 (AAM80020) are omitted as the relevant pages from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAK52244
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                                05-FEB-2001; 2001WO-US004098.
                                                                                               WO200157190-A2
                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                  Human
                                                                                                                                                                                                                                                                                                                  AAM80095
                                                                                                                                                                                                                                                                                                                                             AAM80095 standard; protein; 1270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence listing were missing at the time of publication
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Y, Zhao QA, w
AJ, Yang Y,
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                                                                                                                                                                                                                                               protein SEQ ID NO 3741.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 HYAMS 5
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Zhao QA, Wang D, Wa
Zhao Y, Wejhrman J
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2000US-00560875.
2000US-00598075.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 28; DE 100.0%; Pred. No. 1.1 tive 0; Mismatches
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J, Zhang J,
Goodrich R;
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J, Ren F,
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RESULT 27
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Matches 5
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20-UUN-2000; 2000US-00598075.
19-UUL-2000; 2000US-00620325.
01-SEP-2000; 2000US-00654936.
15-SEP-2000; 2000US-006693255.
20-CCT-2000; 2000US-00693325.
30-NOV-2000; 2000US-00728422.
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Ma Y, .
Ye AJ,
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N-PSDB; AAK53228.
                                                                              23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
                                                                                                                                                              23-MAR-2001; 2001WO-US009231.
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                                                                                                                                                                                                                                                                                                                           Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                          pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drosophila melanogaster polypeptide SEQ ID NO 18732.
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, Zhao QA, Wang D, V
AJ, Yang Y, Wejhrman
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Wang D, Wang
Wejhrman T,
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Pred. No. 1.1e+03;
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J, Zhang
Goodrich R
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J, Ren F,
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Wang
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(PEKE ) PE CORP NY

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RESULT 28
AAM97232
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AC AAM97
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      neuroprotective; antimicrobial; gene therapy; vaccine; amylase; cancer amyloid protein; angiopoietin; apoptosis related protein; cadherin; cyclin; polymerase; oncogene; histone; kinase; colony stimulating fact complement related protein; cytochrome; kinesin; cytokine; interferon;
                          Polymorphic nucleic acids encoding e.g. amylases, oncogenes and histones, useful for diagnosing and autoimmune diseases and infections.
                                                                                                                                                                                                                                                                                                                                         28-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  interleukin; G-protein coupled receptor; thioesterase; inflammation; multifactorial disease; autoimmune disease; infection;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human peptide #507 encoded by a SNP oligonucleotide
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                                                                                                                                                                                                                                                                                                               27-DEC-2000;
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                                                                                                                                           2001-465210/50
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              띺
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1669;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                 cyclins, polymerases, treating, e.g. cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>.</u>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   factor;
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CC encoding polymorphic variants of proteins related to amylases, amyloid
CC proteins, angiopoietin, appitosis related proteins, cadherin, cyclin,
CC polymerase, oncogenes, histones, kinases, colony stimulating factors,
CC complement related proteins, cytochromes, kinesins, cytokines,
CC interferons, interleukins, G-protein coupled receptors and thicesterases.
CC The present sequence is a peptide encoded by one such oligonucleotide.
CC The oligonucleotides and the peptides encoded by them may be used in the
CC prevention, diagnosis and treatment of diseases associated with
CC prevented, diagnosed and/or treated include multifactorial diseases
CC with a genetic component, such as autoimmune diseases (e.g. rheumatoid
CC arthritis, multiple sclerosis, diabetes, systemic lupus crythromatosus
CC and Grave's disease), inflammation, cancer (e.g. cancers of the bladder,
CC brain, breast, colon and kidney, leukaemia), diseases of the nervous
CC system and an infection of pathogenic organisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cerebroprotective; nootropic; neuroprotective; antibacterial; virucide; fungicide; ophthalmological; gene therapy; autoimmune disease; neoplasm; hyperproliferative disorder; cancer; cardiovascular disorder; infection; cerebrovascular disorder; angiogenesis; nervous system disorder; ocular disorder; shin aging; food additive; preservative.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; secreted protein; diagnosis; immunosuppressive; antiarthritic; antirheumatic; antiproliferative; cytostatic; cardiant; vasotropic;
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                                                                                                                         Isolated nucleic acid molecule encoding a human secreted protein in preventing, treating or ameliorating a medical condition.
                                                                                                                                                                                                                      N-PSDB; AAC59781
                                                                                                                                                                                                                                                                                                            Rosen CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-MAR-1999;
11-JUN-1999;
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                                                                                                                                                                                                                                                                                                                                                                         (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                      2000-579482/54.
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                                                                                                                                                                                                                                                                                                               Ruben SM,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0125360P.
99US-0138626P.
99US-0168662P.
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                                                                                                                      treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein sequence encoded by gene 44 SEQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89.3%;
                                                                                                                                                                                                                                                                                                               Komatsoulis
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39;
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                                                                                                                                                            is used
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The polynucleotide sequences given in AAC59738 to AAC59787 encode the

Claim 11;

Page 387; 419pp;

English

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CC antiarthritic; immunosuppressive; anti-heumatic; antiproliferative;
CC cytostatic; cardiant; vasotropic; cerebroprotective; mootropic;
CC cytostatic; antibacterial; virucide; fungicide; and
CC ophthalmological The polynucleotides and proteins can be are used to
CC prevent, treat or ameliorate a medical condition in e.g. humans, mice,
CC in diagnosing a pathological condition or susceptibility to a
CC pathological condition. Disorders which are diagnosed or treated include
CC cancers of the breast or liver, cardiovascular disorders e.g. neoplasms and
CC cancers of the breast or liver, cardiovascular disorders, cerebrovascular
CC disorders, angiogenesis, nervous system disorders. The proteins caused by
CC be used to aid wound healing and epithelial cell proliferation, to
CC prevent skin aging due to sunburn, to maintain organs before
CC prevent skin aging due to sunburn, to maintain organs before
CC transplantation, for supporting cell culture of primary tissues, to
CC prevent skin aging due to sunburn, to maintain organs before
CC capabilities. AAC59729 to AAC59737 and AAB34576 represent sequences used
CC capabilities. AAC59729 to AAC59737 and AAB34576 represent sequences used
CC in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
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        Claim 20;
                                                                        Isolated nucleic acids and polypeptides, and treating e.g. leukemia, inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-FEB-2000; 2000US-00515126.
18-MAY-2000; 2000US-00577409.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-FEB-2001; 2001WO-US004927
                                                                                                                                                                                                                                                                                                                                                                                            (HYSE-) HYSEQ INC
                                                                                                                                                                                                2001-514838/56
DB; AAI83116.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36 HYAMT 40
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        SEQ ID
                                                                                                                                                                                                                                                                                                            Liu C,
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NO 17077; 1399pp + Sequence Listing; English
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Pred. No. 1.6e+02;
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                                                                            useful for preventing and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
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Best Local
The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AAO00010-AAO13910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; cytokine; cell proliferation; cell differentiation; gene th vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human polypeptide SEQ ID NO 17747.
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                                                                                                                                                                                                                                                                                                                                          Claim 20;
                                                                                                                                                                                                                                                                                                                                                                                                 Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukemia, inflammation and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; AAI83786
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18-MAY-2000; 2000US-00577409
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nervous system disorders; arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-NOV-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HYSE-) HYSEQ INC.
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                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 17747; 1399pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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Pred. No. 2.5e
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 4;
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CC Alloicoccus otitidis genomic DNA, which encodes an antigenic protein.
CC Alloicoccus otitidis is a Gram-positive bacterium. Also described: (1)
CC an isolated polypeptide that is encoded by the polynucleotide (1); (2) an isolated polypeptide that is encoded by the polynucleotide (1); (2) an isolated polypeptide that is encoded by the polynucleotide (1); its complement, degenerate variant or fragment; (3) a genetically engineered (2); (4) an antibody specific for the polypeptide of (1); (5) an immunogenic composition comprising the polypeptide, its complement, biological composition or fragment, or the polypeptide that is comprised in the expression vector; (6) a pharmaceutical composition comprising the polypeptide of (1) a protein chip comprising an array (2) immunising against Alloicoccus otitidis by administering to a host the immunogenic composition; (9) detecting and/or identifying Alloicoccus otitidis in the biological sample; (10) a kit comprising a container (C containing the novel polynucleotide, its degenerate variant or fragment, (C or the antibody of (4); and (11) producing a polypeptide to produce the genetically engineered host cell under conditions suitable to produce the colypeptide from the culture. (I) can be used in gene therapy. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New Alloiococcus otitidis polynucleotides and polypeptides, useful for treating and diagnosing diseases, drug screening assays and monitoring effects during drug clinical trials.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 33; SEQ ID NO 1606; 1019pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fletcher LD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alloiococcus otitis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention describes an isolated polynucleotide (I) of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-NOV-2001; 2001US-0333777P
18-NOV-2002; 2002US-0426742P
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Pred. No. 3.6e+02;
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RESULT 33
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AAH52304 to AAH53970 represent nucleic acids (I) encoding polypeptides (II) (II) given in AAG81454 to AAG83120, from Staphylococcus epidermidis. (I) can have antibacterial activity and therefore can be used in vaccination. The nucleic acids (I) may be used to produce the S. (II) was the production of vectors containing them which are used to produce hosts cells which express the polypeptides. The polypeptides (II) was the production of vectors containing them which are used to produce hosts cells which express the cused to vaccinate subjects and to raise antibodies against the bacteria. The polypeptides may also be used to assay for other inhibitors of their activity and therefore identify compounds that may be used for the cure treatment of S. epidermidis infections, e.g. endocarditis. AAH53971 to AAH55090 represent specifically claimed S. epidermidis genomic DNA curepresent oligonucleotide sequences and primers which are used in the polymucleotide sequences and primers which are used in the specifically claims all the polymucleotide sequences given in the specifically claims all the present specification, however the sequence content of the present specification, however the sequence content in the sequence for SEQ ID NO:4455 to 4472, no sequences are present contents.
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Matches 4
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                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic acids encoding polypeptides from Staphylococcus epidermidis, useful for vaccinating against infections, e.g. endocarditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S. epidermidis open reading frame protein sequence SEQ ID NO:908
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                                                                                                                                                                                                                                                                                                                                                                                     Claim 18; Page 271; 2188pp; English
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                                           (1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibited by the polypeptide; (7) identifying a gene in an operon required for proliferation or the activity of a gene in an operon required for proliferation; (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway required for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an compound's activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 116 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
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06-SEP-2001; 2001US-0094893.

25-OCT-2001; 2001US-0342923P.

08-PEB-2002; 2002US-00072851.

06-MAR-2002; 2002US-0362699P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to an isolated nucleic acid
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Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 77481; 1766pp; English
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                        the strains
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Carr G
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is present in a culture or collection of the target of a compound that inhibits the
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Yamamoto R,
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Forsyth
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Xu HH;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New Alloiococcus otitidis polynucleotides treating and diagnosing diseases, drug screffects during drug clinical trials.
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18-NOV-2002; 2002US-0426742P
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The present invention describes an isolated polynucleotide (I) of Alloicocccus officidis genomic DNA, which encodes an antigenic protein. Alloicocccus officidis is a Gram-positive bacterium. Also described: (1) an isolated polypeptide that is encoded by the polynucleotide (I); (2) an expression vector comprising the novel isolated polynucleotide (I), its complement, degenerate variant or fragment; (3) a genetically engineered host cell, transfected, transformed or infected with the vector of (2); (4) an antibody specific for the polypeptide of (1); (5) an immunogenic composition comprising the polypeptide, its complement, biological equivalent or fragment, or the polypeptide, its complement, biological equivalent or fragment, or the polypeptide that is comprised in the expression vector; (6) a pharmaceutical composition comprising the polypeptide of (1) and a carrier; (7) a protein chip comprising an array
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New Alloiococcus otitidis polynucleotides and polypeptides, useful for treating and diagnosing diseases, drug screening assays and monitoring effects during drug clinical trials.
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18-NOV-2002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alloiococcus otitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alloiococcus otitidis; antigenic protein; immunogenic; gene therapy; Gram-positive bacterium; infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alloiococcus otitis antigenic protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADB07668 standard; protein; 134 AA
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)B; ADB07667.
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4; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 1608; 1019pp; English.
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2002US-0426742P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          78
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80.0%;
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Pred. No. 4.6e+02;
1; Mismatches 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            monitoring
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RESULT 37
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of the polypeptides of (1), their biological equivalent or fragment; (8) immunising against Alloiococcus otitidis by administering to a host the immunogenic composition; (9) detecting and/or identifying Alloiococcus otitidis in the biological sample; (10) a kit comprising Alloiococcus containing the novel polynucleotide, its degenerate variant or fragment, or the antibody of (4); and (11) producing a polypeptide by culturing the genetically engineered host cell under conditions suitable to produce the polypuptide from the culture. (1) can be used in gene therapy. The polynucleotides, polypeptides, antibodies and compositions of the present invention can be used for treating and diagnosing diseases, drug are cereming assays and monitoring of effects during drug clinical trials. The present sequence represents an Alloiococcus otitidis of the present the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               vaccine; peptide therapy; stem cell growth factor; haematc tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 134 AA;
                                                                                                                                                                           Claim 20;
                                                                                                                                                                                                                                                                N-PSDB; AAI82553
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18-MAY-2000; 2000US-00577409.
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                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-2001; 2001WO-US004927.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; cytokine; cell proliferation; cell differentiation; gene therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAO02622 standard;
                                                                                                                                                                                                          Isolated nucleic acids and polypeptides, useful for preventing and treating e.g. leukemia, inflammation and immune disorders.
                                                                                                                                                                                                                                                                                                                                                  (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                   ΥŢ,
                                                                                                                                                                                                                                                                                 2001-514838/56.
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4; Conserv
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                                                                                                                                                                           SEQ ID
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                                                                                                                                                                         NO 16514; 1399pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                   Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein; 146 AA.
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                                                                                                                                                                                                                                                                                                                   RŢ
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Pred. No.
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The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or

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RESULT 38
AAU17373
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AAU17373
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Matches 4
  31-JAN-2000

04-FEB-2000

24-FEB-2000

16-MAR-2000

17-MAR-2000

17-MAR-2000

19-MAY-2000

07-JUN-2000

07-JUN-2000

07-JUL-2000

07-JUL-2000

07-JUL-2000

11-JUL-2000

11-JU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Neuroprotective; cytostatic; dermatological; immunosuppressive; tumous antiinflammatory; anti-HIV; antibacterial; antiinflammatory; cancer; immune system disorder; rheumatoid arthritis; inflammatory condition; organ transplant rejection; infection; hepatitis (7; blood disorder; sickle cell anaemia; hyperproliferative disorder; Gaucher's disease; neurodegenerative disorder; Alzheimer's disease; Parkinson's disease; chromosomal abnormality; Down syndrome; ischaemia; renal disorder; cardiovascular; respiratory; wound healing; endocrine; Addison's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                treatment of cancer, leukaemia, nervous system disorders, arthritis inflammation. Note: The sequence data for this patent did not form p of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chromosomal abnormality; Down syndrome; ischaemia; renacardiovascular; respiratory; wound healing; endocrine; reproductive system; gastrointestinal; liver disorder; acquired immune deficiency syndrome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 146
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  2000US-0179065P.
2000US-0184664P.
2000US-0184664P.
2000US-0184654P.
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2000US-0199076P.
2000US-0199076P.
2000US-0199076P.
2000US-0209467P.
2000US-021644P.
2000US-0216497P.
2000US-0216497P.
2000US-02174967P.
2000US-0218290P.
2000US-0218290P.
2000US-0224518P.
2000US-022514P.
2000US-0225266P.
2000US-0225268P.
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; Pred. No. 5e+0
1; Mismatches
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5e+02;
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       114-AUG-2000
118-AUG-2000
122-AUG-2000
223-AUG-2000
30-AUG-2000
01-SEP-2000
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01-SEP-2000
01-SEP-2000
06-SEP-2000
08-SEP-2000
08-SEP-2000
08-SEP-2000
08-SEP-2000
114-SEP-2000
11
2000US-022686BP.
2000US-022709P.
2000US-022709P.
2000US-022934P.
2000US-022934P.
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2000US-022953P.
2000US-0231242P.
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2000US-02312414P.
2000US-0232981P.
2000US-0232981P.
2000US-023299P.
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2000US-023399P.
2000US-023423P.
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2000US-024647P.
2000US-0246524P.
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2000US-0246524P.
2000US-0246523P.
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2000US-0226279P.
2000US-0226681P.
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2000US-0225759P
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The invention relates to novel isolated polypeptides (I), and CC polymucleotides (II). (I), (II) and the antibody to (I) are useful for CC disgracing, preventing and treating diseases including immune system CC disorders (e.g. congenital and acquired immunodeficiencies, autoimmune CC disorders (e.g. rheumatoid arthritis), inflammatory conditions, organ CC (e.g. hepatitis (), bleeding disorders, haemoglobin abnormalities and CC (e.g. hepatitis ()), bleeding disorders, haemoglobin abnormalities and CC (e.g. Gaucher's disorders (sirkle cell anaemia), myeloproliferative disorders, primary haematopoietic disorders, hyperproliferative disorders (e.g. Gaucher's disease and cancer), neurodegenerative disorders (e.g. Gaucher's disease, parkinson's disease), rhomosomal abnormalities (c.g. CC Alzheiner's dischaemic injury (e.g. stroke), renal disorders (e.g. CC Glown syndrome), ischaemic injury (e.g. stroke), renal disorders (e.g. cepithelial cell proliferation, endocrine disorders (e.g. Arrhythmia), cardiovascular disorders (e.g. arrhythmia), cc respiratory disorders, dermatological disorders (e.g. Addison's disease), reproductive system disorders (e.g. Addisorder (e.g. Addisor's climmatory disorders), liver disorders (e.g. Addisorder (e.g. Addisor's finity antibodies, and as a means to induce tumour proliferation in pathologies e.g. acquired immune deficiency syndrome (AIDS). AMU17059-AMU17059-Eachlogies e.g. acquired immune deficiency syndrome (AIDS). ABU17059-CC AMU17683 represent novel signal transduction pathway protein, amino acid sequences of the invention
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01-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel polypeptides useful for diagnosing, treating, preventing and/or prognosing disorders related to the proteins, including cancers, immune disorders and neuronal disorders.
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N-PSDB; AAS27290.
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2000US-0249249P
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2000US-0249269P
2000US-024929P
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2000US-024929P
2000US-0259198P
2000US-0259198P
2000US-0251198P
2000US-02511868P
2000US-0251988P
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RESULT 3
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Matches 3:4
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2000US-0224518P.
2000US-0225267P.
2000US-0225276P.
2000US-02257757P.
2000US-0225775P.
2000US-0225788P.
2000US-0225788P.
2000US-0229343P.
2000US-0229344P.
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2000US-0239348P.
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2000US-0218290P.
2000US-0220963P.
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DT 18-1
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                                                                                                               RESULT 40
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Matches 4
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13-OCT-2000;
20-OCT-2000;
20-OCT-2000;
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17-NOV-2000;
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   18-FEB-2002
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08-DEC-2000;
                                        ABG21786;
                                                                        ABG21786 standard;
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BARASH
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2000US-0241809P.
2000US-0244617P.
2000US-0249299P.
2000US-0251866P.
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1; Mismatches
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Best Local Similarity
Matches 4; Conser
                                                                                                                                                                                                                                                                                                          sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore mormal activity of (II) or to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits to assess biodiversity responsible for genetic disorders or other traits to assess biodiversity
                                                                                                                                                                                           and to produce other types of data and products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human diagnostic amino acid sequences of the invention. Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                        Sequence 164 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
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23-AUG-2000; 2000US-00649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
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18 HYALS
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80.0%;
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Search completed: December 17, 2004, 18:28:58 Job time : 17.1966 secs

Copyright

GenCore version (c) 1993 - 2004

5.1.6 Compugen Ltd

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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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      Pred. No. is the score greater the and is derived?
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length: 2000000000
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109.302 Million cell updates/sec
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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/pcTUS_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*
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US-09-225-322B-18
US-09-264-304-8
US-09-764-304-18
US-09-776-767-4278
US-09-270-767-4279
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US-09-710-279-1072
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US-09-500-563-681A-8179
US-09-348-796A-19817
US-09-348-796A-19817
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Sequence 448, App
Sequence 5431, Ap
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Sequence 10078, A
Sequence 40, Appl
Sequence 8179, Ap
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14325, A
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18, Appl
34278, A
49495, A
42774, A
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20338, A
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  48, Appl
8179, Ap
19817, A
4712, Ap
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5, A
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26 25 89.3 494 3 US-09-670-141-2 27 25 89.3 494 3 US-08-335-865J-9 31 25 89.3 596 3 US-08-335-865J-20 31 25 89.3 606 3 US-08-335-865J-20 32 25 89.3 606 3 US-08-335-865J-20 33 25 89.3 628 4 US-09-252-991A-24741 34 25 89.3 735 4 US-09-252-474-7 36 24 85.7 46 4 US-09-621-976-6089 37 24 85.7 61 4 US-09-621-976-6089 38 24 85.7 61 4 US-09-481-196-6089 39 24 85.7 61 4 US-09-481-976-62479 40 24 85.7 74 US-09-248-796A-26555 41 24 85.7 140 3 US-08-943-116-4 42 24 85.7 140 3 US-08-943-116-4 43 24 85.7 140 4 US-09-394-455-43 45 24 85.7 144 4 US-09-394-455-45																		
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	45, Appl	43, Appl	4, Appli	4, Appli	504, App	26555, A	62479, A	13625, A	6089, Ap	14, Appl	7, Appli	7, Appli	24741, A	20, Appl	21, Appl	9, Appli	2, Appli	TIGGW '7

## ALIGNMENTS

RESULT 1 US-09-770-834-6

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PRIOR APPLICATION NUMBER: US 60/202,466
PRIOR FILLING DATE: 2000-05-08
NUMBER OF SEQ ID NOS: 16
SOFTWARE: PatentIn version 3.0
SEQ ID NO 6
LENGTH: 119
TYPE: PRT
ORGANISM: Staphylococcus sp.
US-09-770-834-6
Sequence 8, Application US/09225322B

Patent No. 6437098

GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHI
FILE REFERENCE: 249-101
CURRENT APPLICATION UNMBER: US/09/225,322B
CURRENT FILING DATE: 1999-01-05
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US-09-225-322B-8
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Best Local Similarity
Matches 5; Conserv
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APPLICANT: Stahl, Mark
APPLICANT: Powers, Robert
APPLICANT: You Guan-Yi
APPLICANT: Xu, Guan-Yi
APPLICANT: Xu, Guan-Yi
APPLICANT: OF INVENTION: CRYSTAL STRUCTURE OF ACPS/ACP COMPLEX, SOLUTION STRUCTURE
TITLE OF INVENTION: OF B. SUBTILIS ACP, AND USES THEREOF
FILE REFERENCE: 2368/14
CURRENT APPLICATION NUMBER: US/09/770,834
CURRENT FILING DATE: 2001-10-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Parris, Kevin
APPLICANT: Somers, William
APPLICANT: Tam, Amy
APPLICANT: Lin, Laura
                                                                                                                                                                                                                                                                                                                                                106 HYAMS 110
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Pred. No. 17;
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RESULT 4
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CURRENT APPLICATION NUMBER: US/09/225,3228
CURRENT FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1996-03-21
PRIOR PILING DATE: 1996-03-21
PRIOR PILING DATE: 1994-08-17
PRIOR FILING DATE: 1992-09-17
PRIOR FILING DATE: 1992-09-17
PRIOR FILING DATE: 1992-09-17
PRIOR FILING DATE: 1992-09-17
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PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1994-08-17
PRIOR PILING DATE: 1994-08-17
PRIOR FILING DATE: 1992-09-17
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: US 07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR FILING DATE: 1991-09-18
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                                                                                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                              SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: HISANAI, MIRONAISA
APPLICANT: MIYAJI, HIRONAISA
APPLICANT: KUWANA, YOSHIHISA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT ORGANISM: Artificial Sequence
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TYPE: PRT
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Pred. No.
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Query Match
Best Local Similarity
Matches 5; Conserv
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OTHER INFORMATION: cDNA KM-641
US-09-764-304-8
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EARLIER APPLICATION NUMBER: 09/225,322

EARLIER FILING DATE: 1999-01-05

EARLIER FILING DATE: 1999-01-05

EARLIER FILING DATE: 1995-05-31

EARLIER FILING DATE: 1995-05-31

EARLIER FILING DATE: 1995-03-21

EARLIER FILING DATE: 1995-03-21

EARLIER FILING DATE: 1995-03-21

EARLIER FILING DATE: 1994-08-17

EARLIER FILING DATE: 1994-08-17

EARLIER APPLICATION NUMBER: USO7/947,674

EARLIER APPLICATION NUMBER: USO7/947,674

EARLIER APPLICATION NUMBER: JP 3-238375

EARLIER APPLICATION NUMBER: JP 3-238375

EARLIER FILING DATE: 1991-09-18
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LENGTH: 130
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                 EARLIER FILING DATE: 1992-09-17
EARLIER APPLICATION NUMBER: JP 3-238375
EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                        CURRENT FILING DATE: 2001-01-19
EARLIER FILING DATE: 1999-01-05
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER FILING DATE: 1995-05-31
                                                                                                                                       EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER FILING DATE: 1995-03-21
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
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SOFTWARE: PatentIn Ver. 2
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APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
                                                                                                                     EARLIER APPLICATION NUMBER: US07/947,674
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APPLICANT: KUWANA, YOSHIHISA
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ORGANISM: Artificial Sequence
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PatentIn Ver.
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Pred. No.
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US-09-270-767-34278
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                                                                                                                     ; OTHER INFORMATION: Xaa means any amino US-09-270-767-49495
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                                                                                                                                                                                             APPLICANT: Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 49495
LENGTH: 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 34278
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GENERAL INFORMATION:
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Best Local
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Best Local Similarity
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TITLE OF INVENTION: Nucleic acids and proteins
TREE OF INVENTION: Pile Reference: 7326-094
                                                                                                                                                                 TYPE: PRT ORGANISM: Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Xaa means any amino acid
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154 HYAMS 158
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Pred. No.
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RESULT 10
US-09-252-991A-20338
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US-09-270-767-42774
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CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: PALENTIN Ver. 2.0
SEQ ID NO 42774
LENGTH: 351
                                                                                            Sequence 20338, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
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GENERAL INFORMATION:
APPLICANT: Homburger et al.
APPLICANT: Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
TITLE OF TANANCE File Reference: 7326-094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 4
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Patent No. 6727408
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Best Local
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APPLICANT: SHI, HUAZHONG
APPLICANT: SHI, HUAZHONG
APPLICANT: ISHITANI, MANABU
APPLICANT: STEVENSON, BECKY
TITLE OF INVENTION: PROTEINS AND DNA RELATED TO
FILE REFERENCE: 205644US20
CURRENT APPLICATION NUMBER: US/09/824,734
CURRENT FILING DATE: 2001-04-04
              APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: ASRUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: US 60/194,648 PRIOR FILING DATE: 2000-04-04 NUMBER OF SEQ ID NOS: 20
CURRENT FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 424
TYPE: PRT
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nes 5; Conserv
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les 5; Conserv
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1999-02-18
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Pred. No.
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US-08-335-865J-4
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US-09-252-991A-20338
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PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 20338
LENGTH: 514
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                                                            Matches
                                                                                            Query Match
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Best Local Similarity
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                                                                                                                                                                                                                   TELEFAX: (212) 752-5958
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Stacker, Steven A., .....,
APPLICANT: Wilks, Andrew F.
TITLE OF INVENTION: RECEPTOR-TYPE TYROSINE KINASE-LIKE MOLECULES
NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
                                                                                                                                      TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: PCT/AU93/00210
FILING DATE: 10-May-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PL2358
                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 19-Janua CLASSIFICATION: PRIOR APPLICATION DATA:
                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                              FILING DATE: 11-May-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION:
                                                                           Local Similarity
                                                                                                                                                                                                                                                                                  NAME: Hanson, No. 610747
REGISTRATION NUMBER: 30,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM:
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                                                                                                                                                                                        LENGTH:
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1998-02-18
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ER: LUD-5277
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Pred. No. 16;
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; FEATURE:
; NAME/KEY: UNSURE
; LOCATION: (6),(51)
; OTHER INFORMATION: I
US-09-248-796A-16865
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US-09-710-279-908
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                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Keith Weinstock et al
TITLE OF INVENTION: NUCLEIC ACID AMD AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT FILING DATE: 1999-02-12
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CURRENT FILING DATE: 2000-11-09
PRIOR APPLICATION NUMBER: 60/164,258
PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: KIMMERLY, WILLIAM JOHN
TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
FILE REFERENCE: PU3480US
                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 16865
LENGTH: 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 16865, Application US/09248796A Patent No. 6747137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 908, Application US/09710279 Patent No. 6703492
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Best Local (
                                                                         Matches
                                                                                                          Query Match
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PRIOR FILING DATE: 1998-02-13
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT ORGANISM: Artificial Sequence
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ORGANISM: Candida
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34 HYAMT 38
83 HYALS 87
                                  1 HYAMS
                                                                       Similarity 80. 4; Conservative
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                                                                                            89.3%;
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80.0%;
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Pred. No.
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Pred. No.
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US-09-710-279-1072 ; Sequence 1072, Application US/09710279 ; Patent No. 6703492

RESULT 14

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US-09-134-001C-3852
; Sequence 3852, Application US/09134001C
; Patent No. 6380370
; GENERAL INFORMATION:
APPLICANT: Lynn Doucette-Stamm et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO AC
TITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOST
FILE REFERENCE: GTC-007
CURRENT APPLICATION NUMBER: US/09/134,001C
; CURRENT APPLICATION NUMBER: US 60/064,964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2706, Application US/09710279

Patent No. 6703492

GENERAL INFORMATION:

APPLICANT: KIMMERLY, WILLIAM JOHN

ITITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROT

FILE REFERENCE: PUJ480US

CURRENT APPLICATION NUMBER: US/09/710,279

CURRENT FILING DATE: 2000-11-09

PRIOR APPLICATION NUMBER: 60/164,258

PRIOR APPLICATION NUMBER: 60/164,258

PRIOR FILING DATE: 1999-11-09

NUMBER OF SEQ ID NOS: 4472

SOFTWARE: Patentin Ver. 2.1

SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS; FILE REFERENCE: PU3480US; CURRENT APPLICATION NUMBER: US/09/710,279; CURRENT FILING DATE: 2000-11-09; PRIOR APPLICATION NUMBER: 60/164,258; PRIOR FILING DATE: 1999-11-09; NUMBER OF SEQ ID NOS; 4472; SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 1072
LENGTH: 308
TYPB: PPT
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US-09-710-279-2706
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Pred. No.
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Pred. No.
                                                                                  AMINO ACID SEQUENCES RELATING DIAGNOSTICS AND THERAPEUTICS
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2.5e+02;
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2.5e+02;
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; OTHER INFORMATION: US-09-270-767-44839
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US-09-270-767-44839
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; ORGANISM: Staphylococcus epidermidis
US-09-134-001C-3852
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US-09-248-796A-14325
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                                                                                                                                        TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOPTWARE: Patentin Ver. 2.0
SEQ ID NO 44839
LENGTH: 348
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Ratent No. 6747137

GENERAL INFORMATION:

APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS

TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/055,779
PRIOR FILING DATE: 1997-08-14
NUMBER OF SEQ ID NOS: 5674
SEQ ID NO 3852
LENGTH: 318
                                                                                                                                                                                                                                                                         Patent No. 6703491
GENERAL INFORMATION:
APPLICANT: Homburger et al.
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Best Local
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LENGTH: 318
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               Query Match
Best Local Similarity
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                                                                                              ORGANISM: Drosophila melanogaster FEATURE:
                                                                                                                              TYPE: PRT
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Score 25; DB Pred. No. 2.8e
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2.6e+02;
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                .8e+02
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US-09-500-569-16

; Sequence 16, Application US/09500569

; Patent No. 6329204
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GENERAL INFORMATION:
APPLICANT: Cahoon, Rebecca E.
APPLICANT: Rafalski, Antoni
APPLICANT: Shen, Jennie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patent No. 6605709
GENERAL INFORMATION:
APPLICANT: GARY BRETON
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIL
TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.1002-001
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Matches
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SEQ ID NO 5431
LENGTH: 359
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                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                          Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/543,681A CURRENT FILING DATE: 2000-04-05 PRIOR APPLICATION NUMBER: US 60/128,706 PRIOR FILING DATE: 1999-04-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILE REFERENCE: ELITRA.008A
CURRENT APPLICATION NUMBER: US/09/711,164
CURRENT FILING DATE: 2000-11-09
PRIOR APPLICATION NUMBER: US 60/164415
PRIOR FILING DATE: 1999-11-9
NUMBER OF SEQ ID NOS: 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: POTSYTH, R. Allyn
APPLICANT: Ohlsen, Kari
APPLICANT: Zyskind, Judith
TITLE OF INVENTION: GENES ESSENTIAL FOR MICROBIAL PROLIFERATION AND ANTISENSE THERET
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TYPE: PRT
ORGANISM: Escherichia coli
                                                                                                                                                                                                                                                                                                                                              TYPE: PRT ORGANISM: Proteus mirabilis
                                                                                                                                                                                                                                                                         Local Similarity
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80.0%;
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Pred. No. 2.8e+02;
1; Mismatches 0
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Pred. No. 2.9e+02;
1; Mismatches 0
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RESULT 23
US-09-489-039A-10078
; Sequence 10078, Application US/09489039A
; Patent No. 6610836
; Patent No. 6610836
; GENERAL INFORMATION:
; APPLICANT: Gary Breton et. al
; TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 2709.2004001
                               ; TYPE: PRT
; ORGANISM: Klebsiella
US-09-489-039A-10078
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                                                                           CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 10078
LENGTH: 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/971,823B
CURRENT FILING DATE: 2002-05-17
PRIOR APPLICATION NUMBER: 60/119,587
PRIOR FILING DATE: 1999-02-10
NUMBER OF SEQ ID NOS: 28
SOFTWARE: Microsoft Office 97
SEQ ID NO 16
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APPLICANT: Cathoon, Rebecca E.
TITLE OF INVENTION: Plant Caf
FILE REFERENCE: BB1327 US NA
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Matches
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SOFTWARE: Microsoft Office 97
SEQ ID NO 16
LENGTH: 371
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Best Local Similarity
Matches 4; Conserv
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Oryza sativa
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Pred. No.
Score
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Pred. No.
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3e+02;
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3e+02;
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RESULT 24
US-08-311-731A-48
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                                                                                                                                                           RESULT 25
US-09-543-681A-8179
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GENERAL INFORMATION:
APPLICANT: GARY BRETON
APPLICANT: TITLE OP INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIL
TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.1.002-001
CURRENT APPLICATION NUMBER: US/99/543,681A
CURRENT FILING DATE: 2000-04-05
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
ANAME: GATES, EDWARD R.
REGISTRATION NUMBER: 31,616
REGRENCE/DCCKET NUMBER: C00-
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/720-3500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
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HYPOTHETICAL: YES
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: WOLF, GRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: SMITH, DOUGLAS
APPLICANT: MAO, JEN-I
TITLE OF INVENTION: NUCLEIC ACID
TITLE OF INVENTION: RELATING TO
TITLE OF INVENTION: DIAGNOSTICS
NUMBER OF SEQUENCES: 411
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                                                                                                                                                                                                                                                                                                                      Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
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Pred. No. 3.6e+02;
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1; Mismatches 0
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                                                                   ; ORGANISM: Acinetobacter baumannii US-09-328-352-4712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: Candida albicans US-09-248-796A-19817
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Patent No. 6747137

Patent No. 6747137

PARENT INFORMATION:

APPLICANT: Keith Weinstock et al

APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS

TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 107196.132

CURRENT APPLICATION NUMBER: US/09/248,796A

CURRENT FILING DATE: 1999-02-12

PRIOR APPLICATION NUMBER: US 60/074,725

PRIOR APPLICATION NUMBER: US 60/096,409

PRIOR FILING DATE: 1998-08-13

PRIOR FILING DATE: 1998-08-13
                                                                                                 CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 4712
LENGTH: 473
TYPE: PRT
                                                                                                                                                                                                    Sequence 4712, Application US/09328352
Patent No. 6562958
GENERAL INFORMATION:
APPLICANT: Gary L. Breton et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
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SEQ ID NO 19817
LENGTH: 440
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PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 8179
 Matches
                 Query Match
Best Local :
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Proteus mirabilis
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Local Similarity
nes 4; Conserv
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Pred. No.
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Pred. No.
                   Score 25;
Pred. No.
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                   3.9e+02;
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US-09-670-141-2
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                                                                                                                            ; LENGTH: 494
; TYPE: PRT
; ORGANISM: Bacillus licheniformis
US-09-670-141-2
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TYPE: PRT
; ORGANISM: Bacillus licheniformis
;US-09-198-956-2
                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Application US/09670141 Patent No. 6429000
                                            Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Pectin Degrading Enzymes From Bacillus TITLE OF INVENTION: Licheniformis FILE REFERENCE: 5377.200-US CURRENT APPLICATION NUMBER: US/09/198,956 CURRENT FILING DATE: 1998-11-24 BARLIER APPLICATION NUMBER: 1344/97 EARLIER FILING DATE: 1997-11-24
                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: 1344/97
PRIOR FILLING DATE: 1997-11-24
PRIOR APPLICATION NUMBER: 60/067,240
PRIOR FILLING DATE: 1997-12-02
NUMBER OF SEQ ID NOS: 26
NUMBER OF SEQ ID NOS: 26
SOFTWARE: FASTSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Lange, Niels Erik K.
APPLICANT: Bjornvad, Mads E.
APPLICANT: Schnorr, Kirk
TITLE OF INVENTION: Pectin Degrading Enzymes From Bacillus
TITLE OF INVENTION: Licheniformis
FILE REFERENCE: 5377.200-US
CURRENT APPLICATION NUMBER: US/09/670,141
CURRENT FILING DATE: 2000-09-26
PRIOR APPLICATION NUMBER: 09/198,956
PRIOR APPLICATION NUMBER: 09/198,956
PRIOR FILING DATE: 1998-11-24
DBFIOR FILING DATE: 1998-11-24
DBFIOR APPLICATION NUMBER: 09/198,956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Andersen, Lene N. APPLICANT: Schulein, Martin APPLICANT: Lange, Niels Eri APPLICANT: Bjornvad, Mads E APPLICANT: Schnorr, Kirk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Schulein, Martin
APPLICANT: Lange, Niels Erik
APPLICANT: Bjornvad, Mads E.
APPLICANT: Schnorr, Kirk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 26 SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EARLIER APPLICATION NUMBER: 60/067,240 EARLIER FILING DATE: 1997-12-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match 89.3%;
Local Similarity 80.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION:
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  HYAMS 5
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                                            Conservative
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                                                            89.3%;
                                     Score 25; DB 4; Length 494; Pred. No. 4.1e+02; Indels
                                          1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 25; DB 3;
Pred. No. 4.1e+02;
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RESULT 30
US-08-335-865J-9
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Best Local Similarity 80.0
Warches 4; Conservative
                                                                                                                                                                        Sequence 21, Application US/08335865J Patent No. 6107472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 9, Application US/08335865J Patent No. 6107472
                                                                                                                                                      Patent No. 6107472
GENERAL INFORMATION:
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APPLICANT: Stacker, Steven A.; Hovens, Christopher M.,
APPLICANT: Wilks, Andrew F.
TITLE OP INVENTION: RECEPTOR-TYPE TYROSINE KINASE-LIKE MOLECULES
NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (212) 752-5958
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
TOPOLOGY: linear
ORIGINAL SOURCE: ma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PS/2
ODERATING SYSTEM: BC-DOS
ODERATING SYSTEM: DC-DOS
SOFTWARE: ASCII/Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/33
                                                                 NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                    APPLICANT: Stacker, Steven A.; Hovens, Christopher M., APPLICANT: Wilks, Andrew F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: (212) 318-3100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 11-May-1992
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6107472man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD-52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: PCT/AUS
FILING DATE: 10-MAY-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PL2358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
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                                                                                                   TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: New York
                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
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                                                  ADDRESSEE:
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New York
New York
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                                  666 Fifth Ave
                                                  Fulbright & Jaworski L.L.P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-January-1995
                                                                                                       RECEPTOR-TYPE TYROSINE KINASE-LIKE MOLECULES
                                                                                                                                                                                                                                                                                                                                                                   89.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              บร/08/335,865J
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                     4.7e+02;
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USA

Diskette, 3.5 inch, 720 KB storage

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RESULT 32
US-08-335-865J-20
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; ORIGINAL SOURCE:
US-08-335-865J-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 20, Application US/08335865J Patent No. 6107472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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Best Local &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (212) 752-5958 INFORMATION FOR SEQ ID NO: :
                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 593
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REFERENCE/DOCKET NUMBER: LUI
TELECOMMUNICATION INFORMATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT//
FILING DATE: 10-May-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PL23:
                                                                                                                                   OPERATING SYSTEM: PC-DOS
SOFTWARE: ASCII/Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Fulbright & Jaworski L.L.P.
STREET: 666 Fifth Ave
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: PCT/AU93/00210
FILING DATE: 10-May-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PL2358
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MEDIUM TYPE: Diskett
COMPUTER: IBM PS/2
                                                                                                                                                                                                                                                                                                                                                                      IITLE OF INVENTION: RECEPTOR-TYPE TYROSINE KINASE-LIKE MOLECULES VUMBER OF SEQUENCES: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 11-May-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
                                                                                  APPLICATION NUMBER: US/08/335,865J
FILING DATE: 19-January-1995
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/335,865J FILING DATE: 19-January-1995 CLASSIFICATION:
                                                                                                                                                                                                                                                                                  CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                 COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Hanson, No. 6107472man D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 80.
4; Conservative
                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                          Wilks, Andrew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ASCII/Wordperfect
                                                                                                                                                                                          IBM PS/2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                            Diskette, 3.5 inch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        89.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                       Steven A.; Hovens, Christopher M.,
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                                                     PCT/AU93/00210
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Pred. No. 5e+0
1; Mismatches
                                                                                                                                                                                                          720 KB storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
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US-09-252-991A-24741
                                                                                                                                                                                                                                                                                 US-09-147-236-7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 24741, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 24741
LENGTH: 628
                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                      Sequence 7, Application US/09147236A Patent No. 6316251
                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
APPLICANT: TONOUCHI, Naoto
APPLICANT: TSUCHIDA, Takayasu
APPLICANT: TSUCHIDA, Takayasu
APPLICANT: TOSHUHIDA, Takayasu
APPLICANT: TAHARA, Naoki
APPLICANT: HAYASHI, Takahisa
TITLE OP INVENTION: NOVEL GENE, GROUP OF GENES, AND NOVEL BETA-GLUCOSIDASE
FILE REFERNCE: 6537-011-0PCT
CURRENT APPLICATION NUMBER: US/09/147,236A
CURRENT FILING DATE: 1997-04-08
EARLIER APPLICATION NUMBER: PCT/JP97/03633
EARLIER APPLICATION NUMBER: PCT/JP97/03633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE: 1998-02-18 PRIOR APPLICATION NUMBER: US PRIOR FILING DATE: 1998-07-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: protein ORIGINAL SOURCE: human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                           604 HYAMA 608
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 25;
Pred. No.
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 4;
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US-09-095-881-14
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CURRENT FILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: US/09/147,236
PRIOR FILING DATE: 1999-04-08
PRIOR APPLICATION NUMBER: PCT/JP97/03633
PRIOR FILING DATE: 1997-10-09
NUMBER OF SEQ ID NOS: 12
SOFTWARE: Patentin Ver. 2.1
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SEQ ID NO 14
LENGTH: 46
TYPE: PRT
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LENGTH: 735
TYPE: PRT
                                                                  Sequence 14, Application US/09095881
Patent No. 6489137
GENERAL INFORMATION: APPLICANT: Seeley, Todd
APPLICANT: Seeley, Todd
TITLE OF INVENTION: DEFECTION OF LOSS OF THE WILD-TYPE
TITLE OF INVENTION: huBUBI GENE
FILE REFERENCE: 1405.003 / 200130.437
CURRENT APPLICATION UNMBER: US/09/095,881
CURRENT APPLICATION UNMBER: US/09/095,881
CURRENT FILING DATE: 1998-06-11
NUMBER OF SEQ ID NOS: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Ver.
SEQ ID NO 7
LENGTH: 735
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Best Local Similarity
Matches 4; Conserv
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APPLICANT: TSUCHIDA, Taka
APPLICANT: YOSHINAGA, Fum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: TAHARA, Naoki
APPLICANT: HAYASHI, Takahisa
TITLE OF INVENTION: NOVEL GENE, GROUP OF GENES, AND NOVEL BETA-GLUCOSIDASE
FILE REFERENCE: 6537-011-0PCT
                                                     SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: n at positions 15741 and 15767 may be OTHER INFORMATION: c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Acetobacter xylinum FEATURE:
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YOSHINAGA, Fumihiro
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Pred. No. 6.2e
1; Mismatches
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Pred. No. 6.2e+02;
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Sequence 6089, Application US/09621976

Patent No. 6639063

GENERAL INFORMATION:
APPLICANT: Dumas Milne Edwards, J.B.
APPLICANT: Jobert, S.
APPLICANT: Jobert, S.
APPLICANT: Giordano, J.Y.
ITITLE OF INVENTION: EST8 and Encoded Human Proteins.
FILE REFERENCE: GENSET.054PR2
CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT FILING DATE: 2000-07-21
NUMBER OF EGG ID NOS: 19335
SOFTWARE: Patent.pm
SEQ ID NO 6089
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; Sequence 13625, Application US/09489039A
; Patent No. 6610836
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                                                                                                                        US-09-489-039A-13625
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Matches
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PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 13625
                                                                          Query Match
Best Local
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Best Local Similarity
Matches 4; Conserv
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                                                             Matches
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CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT FILING DATE: 2000-01-27
                                                                                                                                                                                                                                                                                        APPLICANT: Gary Breton et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PREUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                     LENGTH: 63
TYPE: PRT
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OTHER INFORMATION: Xaa =
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                                                                                                                                       ORGANISM: Klebsiella
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23 HYAM 26
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100.0%;
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100.0%; Pred. No.
tive 0; Mismatc
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79;
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GENERAL INFORMATION:
GENERAL INFORMATION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN
TITLE OF INVENTION: NUCLEIC ACID AND THERAPEUTICS
TILLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR FILING DATE: 1998-02-13
PRIOR FILING DATE: 1998-02-13
PRIOR FILING DATE: 1998-03-13
VUMBER OF SEQ ID NOS: 28208
SEQ ID NO 26555
LEBGOTH: 77
TYPE: PRT
CRANISM: Candida albicans
US-09-248-796A-26555
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US-09-248-796A-26555
; Sequence 26555, Application US/09248796A
; Patent No. 6747137
; Patent No. 6747137
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US-09-270-767-62479
Search completed: December 17, 2004, 18:32:07 Job time: 4.03371 secs
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Patent No. 6703491

GENERAL INFORMATION:
APPLICANT: Homburger et al.
APPLICANT: Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 62479
LENGTH: 68
TYPE: PRT
                                                                                                                                                                             Query Match 85.7%;
Best Local Similarity 80.0%;
Matches 4; Conservative
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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seq length: 2000000000
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28
1 HYAMS 5
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Match
                                                    BLOSUM62
Gapop 10.0 , Gapext 0.5
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185.159 Million cell updates/sec
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11:
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Copyright (c) 1993 - 2004 Compus
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/ Cgn2_6/ptodata/2/pubpaa/USO9B_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/USO9B_PUBCOMB.pep:*
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cgn2_6/ptodata/2/pubpaa/PCTUS_PUBCOMB.pep:*
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4 US-10-166-626-18
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US-09-770-834-6
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     US-09-824-734-4
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US-10-282-122A-71569
US-10-717-138-6
                      US-10-369-493-10250
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Sequence 5, Appli
Sequence 6, Appli
Sequence 44196, A
Sequence 71569, A
Sequence 8, Appli
Sequence 18, Appli
Sequence 10250, A
Sequence 10250, A
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-10-437-963-1175	-10-437-963-20384	-10-425-115-2690	0-275-589-	-10-275-589-	0-275-589-	S-10-425-115-2	-764-868-938	-10-424-599-18814	99-17	-10-424-599-20736	-10-425-115-36020	-10-437-963-10692	-10-282-122A-7748	-10-437-963-16579	-10-437-963-17298	-10-425-115-27024	-10-424-599-18465	-10-424-599-23198	-10-424-599-18093	-10-424-599-27537	-10-425-115-31300	-10-424-599-19914	-10-424-599-21426	-10-335-977-826	24-599-17779	-10-425-115-24992	-10-424-599-18142	-10-425-115-2798	-424-599-24064	-10-437-963-1891	98
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## ALIGNMENTS

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APPLICANT: Parris, Kevin
APPLICANT: Somers, William
APPLICANT: Somers, William
APPLICANT: Tam, Amy
APPLICANT: Lin, Laura
APPLICANT: Lin, Laura
APPLICANT: Lin, Laura
APPLICANT: Stahl, Mark
TITLE OF INVENTION: CRYSTAL STRUCTURE OF ACYL CARRIER PROTEIN SYNTHASE
TITLE OF INVENTION: AND ACYL CARRIER PROTEIN SYNTHASE
TITLE OF INVENTION NUMBER: US/09/771,383
CURRENT APPLICATION NUMBER: US/09/771,383
CURRENT APPLICATION NUMBER: US/09/771,383
CURRENT APPLICATION NUMBER: US/09/771,383
CURRENT FILING DATE: 2001-01-25
PRIOR APPLICATION NUMBER: US 60/178,639
PRIOR FILING DATE: 2000-01-28
NUMBER OF SEQ ID NOS: 13
SOFTWARE: Patentin version 3.0
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                                                                                                                                                                                                                                                                                       ; LENGTH: 119
; TYPE: PRT
; ORGANISM: Staphylococcus
US-09-771-383-5
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RESULT 2
US-09-770-834-6
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                                                                                                                                                                                 Query Match
Best Local Similarity 100
Matches 5; Conservative
                                                                                                 106 HYAMS 110
                                                                                                                                         1 HYAMS 5
                                                                                                                                                                                                                 100.0%; Score 28; DB 9; 100.0%; Pred. No. 1.2e+02;
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APPLICANT: Aybrind, Judich
APPLICANT: Hall, Daniel
APPLICANT: Trawick, John
APPLICANT: Carr, Grant
APPLICANT: Carr, Grant
APPLICANT: Yamamoto, Robert
APPLICANT: Yamamoto, Robert
APPLICANT: Yamamoto, Robert
APPLICANT: Yau, H.
APPLICANT: Xu, H.
TITIE OF INVENTION: Identification of Essential Ger
FILE REFERENCE: ELITRA.034A
CURRENT APPLICATION NUMBER: US/10/282,122A
CURRENT APPLICATION NUMBER: 60/191,078
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR FILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR APPLICATION NUMBER: 60/2030,335
PRIOR APPLICATION NUMBER: 60/230,335
PRIOR APPLICATION NUMBER: 60/230,335
PRIOR APPLICATION NUMBER: 60/230,347
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR FILING DATE: 2000-09-06
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR FILING DATE: 2000-09-09
PRIOR FILING DATE: 2000-09
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Best Local Similarity
Marches 5; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-282-122A-44196
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 44196, Application US/10282122A Publication No. US20040029129A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: CRYSTAL STRUCTURE OF ACPS/ACP COMPLEX, SOLUTION STRUCTURE TITLE OF INVENTION: OF B. SUBTILIS ACP, AND USES THEREOF FILE REPERIOCE 2368/14 CURRENT APPLICATION NUMBER: US/09/770,834 CURRENT FILING DATE: 2001-10-12 PRIOR APPLICATION NUMBER: US 60/202,466 PRIOR PILING DATE: 2000-05-08 UNMBER: OS 50/ DATE: 2000-05-08 UNMBER: OS 50/ DATE: 2000-05-08
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APPLICANT: Somers, William
APPLICANT: Tam, Amy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
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OR FILING DATE: 2000-10-23
OR APPLICATION NUMBER: 60/253,625
OR FILING DATE: 2000-11-27
OR APPLICATION NUMBER: 60/257,931
OR FILING DATE: 2000-12-22
OR APPLICATION NUMBER: 60/267,636
OR FILING DATE: 2001-02-09
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No. US20030211588A1
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Powers, Robert
Xu, Guan-Yi
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Lin, Laura
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Zyskind, Judith
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Malone, Cheryl
Haselbeck, Robert
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lio, Carlos
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                                                                                US-10-282-122A-71569
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                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILLING DATE: 2000-05-23
PRIOR PELLING DATE: 2000-05-27
PRIOR FILLING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/230,335
PRIOR FILLING DATE: 2000-09-06
PRIOR FILLING DATE: 2000-09-06
PRIOR APPLICATION NUMBER: 60/230,347
PRIOR FILLING DATE: 2000-09-09
PRIOR FILLING DATE: 2000-09-09
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Best Local Similarity 100.
"---hes 5; Conservative
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PRIOR FILING DATE: 2001-02-16
Remaining Prior Application data removed
NUMBER OF SEQ ID NOS: 78614
SOFTWARE: PatentIn version 3.1
SEQ ID NO 44196
                                                                                                                     SOFTWARE: PatentIn version
SEQ ID NO 71569
LENGTH: 119
TYPE: PRT
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Publication No. US20040029129A1
                  Query Match
Best Local Similarity
  Matches
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APPLICANT:
APPLICANT:
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FILE REFERENCE: ELITEA.034A
CURRENT APPLICATION NUMBER: US/10/282,122A
CURRENT FILING DATE: 2003-02-20
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR FILING DATE: 2000-03-21
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                                                                                                                                                                                              Remaining Prior Application data removed - See File Wrapper or PALM NUMBER OF SEQ ID NOS: 78614
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PRIOR APPLICATION NUMBER: 60/269,308
PRIOR FILING DATE: 2001-02-16
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TYPE: PRT
                                                                                                ORGANISM: Staphylococcus haemolyticus
                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 60/267,636
                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 2000-10-23
APPLICATION NUMBER: 60/253,625
FILING DATE: 2000-11-27
                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/242,578
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Zyskind, Judith
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Malone, Cheryl
Haselbeck, Robert
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Forsyth, R.
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Trawick, John
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100.0%; Score 28; DB 15; llarity 100.0%; Pred. No. 1.2e+02; Conservative 0; Mismatches 0;
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io, Carlos
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                                         Length 119;
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FILE REFERENCE: 2368/14
CURRENT APPLICATION NUMBER: US/10/717,138
CURRENT FILING DATE: 2003-11-19
PRIOR APPLICATION NUMBER: US/09/770,834
PRIOR FILING DATE: 2001-10-12
PRIOR APPLICATION NUMBER: US 60/202,466
PRIOR FILING DATE: 2000-05-08
NUMBER OF SEQ ID NOS: 16
SOFTWARE: Patentin version 3.0
SEQ ID NO 6
CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/25,322
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER FILING DATE: 1995-05-31
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
EARLIER FILING DATE: 1994-08-17
EARLIER APPLICATION NUMBER: US/7/947,674
EARLIER APPLICATION NUMBER: US/7/947,674
EARLIER APPLICATION NUMBER: US/7/947,674
EARLIER APPLICATION NUMBER: US/7/947,674
EARLIER FILING DATE: 1992-09-17
EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOTTWARE: Patentin Ver: 2.0
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
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Patent No. US20020026036A1
                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
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APPLICANT: Somers, Will
                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                      ILE REFERENCE: 249-101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ENGTH: 119
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Lin, Laura
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Powers, Robert
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Pred. No. 1.2e+02;
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Query Match
Best Local Similarity
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; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: CDNA KM-641
US-09-764-304-8
                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Thes 5; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Artificial Sequence; FEATURE: , OTHER INFORMATION: CDNA KM-641. US-09-764-304-18
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EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER APPLICATION NUMBER: JP 3-238375
EARLIER APPLICATION NUMBER: JP 3-238375
                                                                                                                             Sequence 8, Application US/10265713
Publication No. US20030095964A1
GENERAL INFORMATION:
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SEQ ID NO 18
LENGTH: 130
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBU
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
                                                  APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS:
FILE REFERENCE:
                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
      CANT: MIYAJI, HIROMASA
CANT: KUWANA, YOSHIHISA
OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41 HYAMS
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249-101
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Pred. No. 1.3e+02;
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CURRENT APPLICATION NUMBER: US/10/265,713
CURRENT FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: US/09/225,322
PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR PRIOR DATE: 1995-03-21
PRIOR PRIOR DATE: 1995-03-21
PRIOR PRIOR DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR PILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US 07/947,674
PRIOR APPLICATION NUMBER: US 07/947,674
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 08/292,179
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US-10-265-713-8
                                                                                                                            US-10-265-713-18
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                                  Query Match
Best Local Similarity
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Publication No.
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            Matches
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CURRENT REPERENCE: 202-10-08
CURRENT FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: US/09/225,322
PRIOR PILING DATE: 1999-01-05
PRIOR FILING DATE: 1999-01-05
PRIOR PILING DATE: 1995-05-01
PRIOR PILING DATE: 1995-05-31
PRIOR FILING DATE: 1995-05-31
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1995-08-17
PRIOR PILING DATE: 1994-08-17
PRIOR PILING DATE: 1994-08-17
PRIOR PILING DATE: 1994-08-17
PRIOR PILING DATE: 1994-08-17
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PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR FILING DATE: 1991-09-18
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APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAN
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                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 19
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APPLICANT: KUWANA, YOSHIHISA
                                                                                                                                                 OTHER INFORMATION: Description of Artificial Sequence:cDNA KM-641
                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                              LENGTH: 130
TYPE: PRT
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                                                                                                                                                                                                            ORGANISM: Artificial Sequence
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         Conservative
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100.0%; Score 28; DB 14;
100.0%; Pred. No. 1.3e+02;
tive 0; Mismatches 0;
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Pred. No.
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US-10-166-626-18
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Publication No. US20030166876A1
GENERAL INFORMATION:
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Publication No. US20030166876A1
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Best Local Similarity
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APPLICANT: HANAI, NOBUO
APPLICANT: HASGAWA, MAMORU
APPLICANT: MIYAII, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/10/166,626
CURRENT FILING DATE: 2002-06-12
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PRIOR FILLING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILLING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILLING DATE: 1994-08-17
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APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: MIYAJI, VOCUTHICA
                                       PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 08/292,178
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PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR FILING DATE: 1999-01-05
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CURRENT FILING DATE: 2002-06-12
PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR FILING DATE: 1999-01-05
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PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE: 249-101
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TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT ORGANISM: Artificial Sequence
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FILING DATE: 1994-08-17 APPLICATION NUMBER: USO
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Pred. No. 1.3e+02
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GENERAL INFORMATION:

APPLICANT: ZHU, JIAN KANG
APPLICANT: SHI, HUAZHONG
APPLICANT: SHI, HUAZHONG
APPLICANT: STEVENSON, BECKY
TITLE OF INVENTION: PROTEINS AND DNA RELATED TO
FILE REFERENCE: 205644US20
CURRENT APPLICATION NUMBER: US/09/824,734
CURRENT FILING DATE: 2001-04-04
PRIOR APPLICATION NUMBER: US 60/194,648
PRIOR APPLICATION NUMBER: US 60/194,648
PRIOR FILING DATE: 2000-04-04
NUMBER OF SEG ID NOS: 20
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILE REFERENCE: 38-10(52052)B

CURRENT APPLICATION NUMBER: US/10/369,493

CURRENT FILING DATE: 2003-02-28

PRIOR APPLICATION NUMBER: US 60/360,039

PRIOR FILING DATE: 2002-02-21

NUMBER OF SEQ ID NOS: 47374

SEQ ID NO 10250

LENGTH: 412

TYPE: PRT
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SEQ ID NO 18
LENGTH: 130
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                             RESULT 13
US-09-824-734-4
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US-10-369-493-10250
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US-10-166-626-18
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Cao, Yongwei
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
APPLICANT: Chen, Xianfeng
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PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
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CURRENT APPLICATION NUMBER: US/10/749,386
CURRENT FILING DATE: 2004-01-02
PRIOR APPLICATION NUMBER: US/09/824,734
PRIOR FILING DATE: 2001-04-04
PRIOR APPLICATION NUMBER: US 60/194,648
PRIOR FILING DATE: 2000-04-04
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin version 3.1
SEQ ID NO 4
                                                    TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement; FILE REFERENCE: 38-21(53221)B; CURRENT APPLICATION NUMBER: US/10/437,963; CURRENT FILING DATE: 2003-05-14; NUMBER OF SEQ ID NOS: 204966
SEQ ID NO 189155
LENGTH: 1031
TYPE: PPT
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US-09-824-734-4
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US-10-437-963-189155
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Best Local Similarity
Matches 5; Conserv
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APPLICANT: La Rosa, Thomas J.
APPLICANT: Kovalic, David K.
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Publication No. US20040123343A1
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APPLICANT: SHI, HUAZHONG
APPLICANT: ISHITANI, MANABU
APPLICANT: STEVENSON, BECKY
TITLE OF INVENTION: PROTEINS AND DNA RELATED
FILE REFERENCE: 205644US20
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TYPE: PRT
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OTHER INFORMATION: Clone ID: PAT_MRT4530_85691C.1.pep
                     FEATURE:
                                    ORGANISM: Oryza sativa
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             Query Match
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                                                                                                         ; OTHER INFORMATION: US-10-425-115-279811
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecul
TITLE OF INVENTION: Plants and Uses Thereof
FILE REFERENCE: 38-21(5322)B
FULE REFERENCE: 38-21(5322)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
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Matches 5
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SEQ ID NO 240643
LENGTH: 53
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Publication No. US20040214272A1
GENERAL INFORMATION:
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SEQ ID NO 279811
LENGTH: 54
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FEATURE:
NAME/KEY: unsure
LOCATION: (1)..(53)
OTHER INFORMATION: uns
                                                                                                                                                                                                                                                          TITLE OF INVENTION: Nucleic Acid Molecules TITLE OF INVENTION: Plants FILE REFERENCE: 38-21(53222)B CURRENT APPLICATION NUMBER: US/10/425,115 CURRENT FILING DATE: 2003-04-28
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: La Rosa, Thomas J. APPLICANT: Kovalic, David K.
                                                                                                                                                        TYPE: PRT
ORGANISM: Zea mays
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nilarity 80.0%;
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                             Score 25; DB 17;
Pred. No. 2.6e+02;
1; Mismatches 0
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Pred. No. 2.6e
1; Mismatches
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                                                                DB 17; Length 54;
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RESULT 20
US-10-424-599-177790
· Sequence 177790, Application US/10424599
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US-10-425-115-249920
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THER INFORMATION: Clone ID: PAT_MRT3847_134837C.1.pep
US-10-424-599-181420
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                                                                                                                                                                                                                                                                                                                                                                  Sequence 24920, Application US/10425115
Publication No. US20040214272A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: La Rosa, Thomas J.
APPLICANT: Chou, Yihua
APPLICANT: Chou, Yihua
APPLICANT: Co, Yongwei
APPLICANT: Co, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFRENCE: 38-21(5322)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 249920
LENGTH: 57
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Publication No. US20040031072A1

GENERAL INFORMATION:
APPLICANT: La ROSA Thomas J
APPLICANT: Cho Yolivei
APPLICANT: Cho Yolivei
APPLICANT: Cho Yolivei
APPLICANT: Co Yolivei
APPLICANT: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFREENCE: 38-24 (5323)B

CURRENT APPLICATION NUMBER: US/10/424,599

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NO. 181420

LENGTH: 57

TYPES: DET
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Best Local Similarity
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                   ORGANISM: Zea mays FEATURE:
                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
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Pred. No.
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                                                                                                                                                                                                     Mismatches
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2.8e+02;
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Length 57; Indels

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Gaps

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Gaps

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TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement; FILE REFERENCE: 38-21(5323)B; CURRENT APPLICATION UMBER: US/10/424,599; CURRENT FILING DATE: 2003-04-28 NUMBER OF SEQ ID NOS: 285684

SEQ ID NO 177790

LENGTH: 58
TYPE: PPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 21
US-10-335-977-8261
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GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: DOUGLAS SMITH et al
APPLICANT: DOUGLAS SMITH et al
TITLE OF INVENTION: NUCLEIC ACID AMINO ACID SEQUENCES
RELATING TO HELICOBACTER PYLORI FOR
DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION: Clone ID: PAT_MRT3847_131560C.1.pep
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LOCATION: (1)..(58)
OTHER INFORMATION: unsure at all Xaa locations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Glycine max
                                         INFORMATION FOR SEQ ID NO: 8261:
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                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/335,977
APPLICATION NUMBER: US/10/335,977
APPLICATION DATA:
APPLICATION NUMBER: 08/993,002
FILING DATE: 17-DEC-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM IS09660
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: Windows NT 4.0
SOFTWARE: UNIX
SEQUENCE CHARACTERISTICS:
LENGTH: 58 amino acids
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CORRESPONDENCE ADDRESS:
                                                                                                  TELECOMMUNICATION INFORMATION:
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                                                                                                                   NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: GTN-018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: Massachusetts
                                                            TELEPHONE: (617)227-7400
TELEFAX: (617)742-4214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3E: LAHIVE & COCKFIELD
28 State Street
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Pred. No.
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APPLICANT: Zhou Yihua

APPLICANT: Zhou Yihua

APPLICANT: Cao Yongwei

ITITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With

ITITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement

FILE REFERENCE: 38-21(5323)B

CURRENT APPLICATION NUMBER: US/10/424,599

CURRENT FILING DATE: 2003-04-28

SEQ ID NO 199143

LENCTH: 77

TYPE: PRT
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APPLICANT: Zhou Yihua

ITITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With

ITITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement

FILE REFERENCE: 38-21(53223)-B

CURRENT APPLICATION NUMBER: US/10/424,599

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 285684

SEQ ID NO 214263

LENGTH: 70

TYPE: ppm
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US-10-424-599-214263
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US-10-424-599-199143
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Best Local Similarity
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            OTHER INFORMATION: Clone ID: PAT_MRT3847_21850C.1.pep
                           ORGANISM: Glycine max FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Glycine FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: Clone ID: PAT_MRT3847_35506C.1.pep
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ORIGINAL SOURCE
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LOCATION:
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(B) LOCATION 1...58
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Pred. No.

    Mismatches

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Pred. No.
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US-10-424-599-275379; Sequence 275379; Application US/10424599; Publication No. US20040031072A1
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                                        ; FEATURE:
; OTHER INFORMATION: Clone ID: PAT_MRT3847_90688C.1.pep
US-10-424-599-275379
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LENGTH: 84
TYPE: PRT
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Best Local Similarity
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            Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OP INVENTION: Nuclesic Acid Molecules and Other Molecules Associated With
FILE REFERENCE: 38-21(53222)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
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                                                                                  NAME/KEY: unsure
LOCATION: (1)..(85)
OTHER INFORMATION:
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 Conservative
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           89.3%;
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80.0%;
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                                                                                   all Xaa locations
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Pred. No.

    Mismatches

           Score 25; DB 15;
Pred. No. 4.1e+02;
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Pred. No.
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3.7e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                        Length 85;
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Indels
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Gaps
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; TYPE: PRT; ORANISM: Glycine max; FEATURE: ; PEATURE: ; CTHER INFORMATION: Clone ID: PAT_MRT3847_134394C.l.pep US-10-424-599-180930
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                                                                                                                                                                    ; OTHER INFORMATION: Clone ID: PAT_MRT3847_51506C.1.pep US-10-424-599-231987
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                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5323)B
FULE REFERENCE: 38-21(5323)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285884
SEQ ID NO 231987
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APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (5322) B
FULE REFERENCE: 38-21 (5322) B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 180930
LEMOTH: 86
LEMOTH: 86
                                                                                Query Match
Best Local S
Matches 4
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                                                                                                                                                                                                                            NAME/KEY: unsure
LOCATION: (1)..(86)
OTHER INFORMATION: unsure at all Xaa locations
                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Glycine max
                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                              FEATURE:
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                                                                                Similarity 4; Conserv
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  30
                                                                                                    89.3%;
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    Mismatches

                                                                                                    Score 25; DB 15;
Pred. No. 4.1e+02;
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Pred. No. 4.1e+02;
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APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules an
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILLING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 270245
LENGTH: 99
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US-10-425-115-270245
; Sequence 270245, Application US/10425115
; Publication No. US20040214272A1
                                                             RESULT 30
US-10-437-963-172988
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THER INFORMATION: Clone ID: MRT4577_17805C.1.pep
US-10-425-115-270245
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US-10-424-599-184650
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APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5322)B
FULE REFERENCE: 38-21(5322)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 184650
LENGTH: 89
Sequence 172988, Application US/10437963 Publication No. US20040123343A1 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: La Rosa, Thomas J. APPLICANT: Kovalic, David K. APPLICANT: Zhou, Yihua
                                                                                                                                                                                                                                                                                                                                                           FEATURE:
NAME/KEY: unsure
LOCATION: (1)..(99)
OTHER INFORMATION: unsure at all Xaa locations
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                                                                                                                                                                                                                                                      Local Similarity
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Local Similarity 80.0%;
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                                                                                                                                                10 HYALS
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                                                                                                                                                                                                                                                  89.3%;
80.0%;
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Pred. No.
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Pred. No. 4.3e+02;
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; OTHER INFORMATION: Clone ID: PAT_MRT4530_64563C.1.pep
US-10-437-963-165791
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; Sequence 165791, Application US/10437963
; Publication No. US20040123343A1
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                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/10/437,963
CURRENT FILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
SEQ ID NO 165791
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Best Local Similarity
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Best Local Similarity
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APPLICANT:
APPLICANT:
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TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53221)B
                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
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                                                                                                                                                                                        LENGTH: 107
TYPE: PRT
ORGANISM: Oryza sativa
                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
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ORGANISM: Oryza sativa
PEATURE:
NAME/KEY: unsure
LOCATION: (1)..(100)
OTHER INFORMATION: unsure at all Xaa locations
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APPLICANT: Kovalic, David
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69 HYAMT 73
                                 1 HYAMS 5
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                                                                   4; Conservative
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Tan. Yongwei
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Cao, Yongwei
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Barbazuk, Brad
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                                                                                   89.3%;
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Pred. No.
                                                                                     Score 25; DB 16; Length 107; Pred. No. 5.1e+02;
                                                                    Mismatches
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                                                                    Gaps
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RESULT 32 US-10-282-122A-77481

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CURRENT FILING DATE: 2003-02-20
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR FILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
                                                                                                                                                                                                                                                                                                       RESULT 33
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Matches
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APPLICANT:
APPLICANT:
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APPLICANT: Boukharov, Andrey A.
APPLICANT: Barbazuk, Brad
APPLICANT: Li, Ping
APPLICANT: Li, Ping
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53221)B
                                                                                                                                          APPLICANT: La ROSA, Thomas
APPLICANT: Kovalic, David
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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TITLE OF INVENTION: Identification of Essential Genes in Microorganisms
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PRIOR FILING DATE: 2001-02-16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Vibrio cholerae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
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FILLING DATE: 2000-11-27
APPLICATION NUMBER: 60/257,931
FILING DATE: 2000-12-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/242,578 FILING DATE: 2000-10-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/267,636 FILING DATE: 2001-02-09
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                                                                                                                                                                                                                                                                                                                                                                   115 HYAMA 119
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                                                                                                                            Kovalic, David K.
Zhou, Yihua
Cao, Yongwei
Wu, Wei
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Zyskind, Judith
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Malone, Cheryl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Forsyth, R.
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 25; DB
Pred. No. 6e+0
1; Mismatches
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; FEATURE:
; OTHER INFORMATION: Clone ID: MRT4577_91685C.1.pep
US-10-425-115-360208
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; OTHER INFORMATION: Clone ID: PAT_MRT4530_11324C.1.pep
US-10-437-963-106924
                                                                                                                                                                                                                                                                                                              US-10-424-599-207366
                                                                                                                                                                                                                                                                                                                                 RESULT 35
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                              APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5323)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 207366
LENGTH: 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/10/437,963
CURRENT FILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
SEQ ID NO 106924
LENGTH: 131
TYPE: PRT
ORGANISM: Oryza sativa
                                                                                                                                                                                                                                                        Sequence 207366, Application US/10424599 Publication No. US20040031072A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 360208
LENGTH: 131
TYPE: PRT
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Best Local Similarity
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants FILE REFERENCE: 38-21(53222)B CURRENT APPLICATION NUMBER: US/10/425,115 CURRENT FILING DATE: 2003-04-28
                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                     APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Kovalic, Dav
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Zea mays
ORGANISM: Glycine
                   TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                           78 HYAMA 82
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Pred. No.
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Pred. No. 6.2e+02
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NAME/KEY: unsure

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RESULT 37
US-10-424-599-188149
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US-10-424-599-177566
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                                                                   ; OTHER INFORMATION: Clone ID: US-10-424-599-188149
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SEQ ID NO 177566
LENGTH: 136
                                                                                                                                                   NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 188149
LENGTH: 148
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                   Query Match
Best Local Similarity
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   Matches
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TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
                                                                                                                                                                                                    APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)8
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
                                                                                                                                                                                                                                                                                                                    APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
                                                                                                                                                                                                                                                                                                      APPLICANT: Zhou Yihua
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OTHER INFORMATION: unsure at
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                                                                                                    ORGANISM: Glycine max FEATURE:
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Kovalic David K
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Score 25; DB 15
Pred. No. 7e+02;
1; Mismatches
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Pred. No. 6.4e+02;
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                                DB 15;
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                               Length 148;
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Best Local
                                                                                                                                                                                    LENGTH: 174
TYPE: PRT
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US-09-764-868-938
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TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21 (53222)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 225898
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 225898, Application US/10425115
Publication No. US20040214272A1
GENERAL INFORMATION:
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SEQ ID NO 938
LENGTH: 150
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Query Match
Best Local Similarity
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NAME/KEY: SITE
LOCATION: (71)
OTHER INFORMATION:
NAME/KEY: SITE
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CURRENT FILING DATE: 2001-01-17
Prior application data removed - refer to
NUMBER OF SEQ ID NOS: 1510
                                                        FEATURE:
OTHER INFORMATION: Clone ID:
10-425-115-225898
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TITLE OF INVENTION: Nucleic Acids, Proteins,
FILB REFERENCE: PTZ32
                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: La Rosa, Thomas J.
APPLICANT: Kovalic, David K.
                                                                                                              NAME/KEY: unsure
LOCATION: (1)..(174)
OTHER INFORMATION: unsure
                                                                                                                                                                           ORGANISM: Zea mays FEATURE:
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NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
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89.3%;
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                                                                                                                  all Xaa locations
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Pred. No.
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Score 25;
Pred. No.
DB 17;
8.2e+02;
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                  Length 174;
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Sequence 3, Application US/1027589
Publication No. US20040023864A1
GENERAL INFORMATION:
APPLICANT: Dubois-Stringfellow, Nathalie
APPLICANT: Steve, Roczniak
APPLICANT: Zolotorev, Alya
TITLE OF INVENTION: Method of Regulating Angiogenesis Using RYK Protein
FILE REFERENCE: MSB 7266
CURRENT APPLICATION NUMBER: US/10/275,589
CURRENT APPLICATION NUMBER: US/10/275,589
CURRENT FILING DATE: 2002-11-06
PRIOR APPLICATION NUMBER: US 09/568,783
PRIOR FILING DATE: 2000-05-11
NUMBER OF SEQ ID NOS: 23
SOFTWARE: PatentIn version 3.2
SEQ ID NO 3
LENGTH: HOMO SAPIENS
US-10-275-589-3
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US-10-275-589-3
Search completed: December 17, 2004, 18:37:57 Job time : 10.6629 secs
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                                                                                                                                     Query Match 89.3%;
Best Local Similarity 80.0%;
Matches 4; Conservative
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77 HYALS 81
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Database :
                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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pir2:*
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244,665 Million cell updates/sec
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and Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed. is derived by analysis of the total score distribution.

## SUMMARIES

Result

R;Kawarabayasi, Y.; Sawada, M.; Horikawa, H.; Haikawa, Y.; Hino, Y.; Yamamoto, S.; Sekine M.; Ohfuku, Y.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Kushida, N.; Oguchi, DNA Res. 5, 55-76, 1998
A;Title: Complete sequence and gene organization of the genome of a hyper-thermophilic all A;Reference number: A71000; MUID:98344137; PMID:9679194
A;Accession: A71051

A;Status: preliminary; nucleic acid sequence not shown; translation not shown

A; Molecule type: DNA

PH1104

C;Species: Pyrococcus horikoshii
C;Date: 14-Aug-1998 #sequence\_revision 14-Aug-1998 #text\_change 12-Jul-2004
C;Accession: A71051

Pyrococcus horikoshii

hypothetical protein PH1104 -

A;Cross-references: UNIPROT:058831; GB:AP000005; NID:g3236132; PIDN:BAA30203.1; PID:g325; A;Experimental source: strain OT3 A;Note: this accession replaces an interim accession for a sequence replaced by GenBank C;Genetics:

## ALIGNMENTS

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Tolo-AcP synthase [imported] - Staphylococcus aureus (strain N315)

C;Species: Staphylococcus aureus
C;Species: 10-May-2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004
C;Accession: E89999
R;Kuroda, M; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.;
ma, A.; Mizutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu,
C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
Lancet 357, 1255-1240, 2001
A;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus.
A;Reference number: A89758; MUID:21311952; PMID:11418146
                                                                                                                                                                                                                                                                                                            A;Residues: 1-119 <KUR>
A;Cross-references: UNIPROT:Q99SI4; GB:BA000018;
A;Experimental source: strain N315
C;Genetics:
RESULT 2
A71051
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C;Superfamily: holo-ACP synthase
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5; Conserv
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100.0%; Pred. No. 14;
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hypothetical protein PAB2437 - Pyrococcus abyssi (sc;Species: Pyrococcus abyssi C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 C;Accession: E75216
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E75216
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                                                                                                                                                                                                                                                                                               A; Experimental source: strain C; Genetics:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    probable aminoglycoside nucleotidyltransferase - Streptomyces coelicolor C;Species: Streptomyces coelicolor C;Species: Streptomyces coelicolor C;Date: 03.Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-20 C;Accession: T37007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Accession: AD3630
R;DelVecchio, V.G.; Kapatral, V.; Redkar, R.J.; Patra, G.; Mujer, C.; Los, T.; Ivanova, ; Mazur, M.; Goltsman, E.; Selkov, E.; Elzer, P.H.; Hagius, S.; O'Callaghan, D.; Letess Proc. Natl. Acad. Sci. U.S.A. 99, 443-448, 2002
A;Title: The genome sequence of the facultative intracellular pathogen Brucella melitens A;Reference number: AD3252; PMID:11756688
A;Accession: AD3630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pseudoazurin (imported) - Brucella melitensis (strain 16M)
C;Species: Brucella melitensis
C;Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 09-Jul-2004
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C; Superfamily: plastocyanin
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A; Residues: 1-146 < KUR>
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;Experimental source: strain 16M
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Pred. No.
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conserved hypothetical protein - Thermotoga maritima (strain MSB8)
C;Species: Thermotoga maritima
C;Species: Thermotoga maritima
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
C;Accession: C72320
C;Accession: C72320
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H.; Hi
Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richardson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      M.; Ohfuku, Y.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; DNA Res. 5, 55-76, 1998
A;Title: Complete sequence and gene organization of the genome of a A;Reference number: A71000; MUID:98344137; PMID:9679194
A;Accession: C71453
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C71453
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submitted to the EMBL Data Library, July 1999
A;Description: Pyrococcus abyssi genome sequer
A;Reference number: A75001
A;Accession: E75216
A;Status: preliminary
Nature 399, 323-329, 1999
A;Title: Evidence for lateral gene transfer between Archaea A;Reference number: A72200; MUID:99287316; PMID:10360571
A;Accession: C72320
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C;Species: Pyrococcus horikoshii
C;Date: 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 12-Jul-2004
C;Accession: C71453
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C;Superfamily:
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A; Residues: 1-280 < KAW >
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A;Experimental source: strain OT3
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A; Residues: 1-280 < KAW>
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Kushida,
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on, D.;
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A;Residues: 1-284 <ARN> A;Cross-references: UNIPROT:Q9X018; A;Experimental source: strain MSB8 C;Genetics: A;Gene: TM0916

GB:AE001755;

GB:AE000512; NID:g4981432; PIDN:AAD3599

A;Status: preliminary A;Molecule type: DNA

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rson, J.D.; Sadow, P.W.; Hanna, M.C.; Cotton, M.D.; Roberts, K.M.; Hurst, M.A. Science 273, 1058-1073, 1996
A;Authors: Kaine, B.P.; Borodovsky, M.; Klenk, H.P.; Fraser, C.M.; Smith, H.O.; Woese, (A;Title: Complete genome sequence of the methanogenic archaeon, Methanococcus jannaschii A;Reference number: A64300; MUID:96337999; PMID:8688087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Title: The complete genome of the hyperthermophilic bacterium Aquifex aeolicus. A;Reference number: A70300; MUID:98196666; PMID:9537320 A;Accession: A70371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             conserved hypothetical protein aq_814 - Aquifex acolicus
C;Species: Aquifex acolicus
C;Date: 08-May-1998 #sequence_revision 08-May-1998 #text_change 09-Jul-2004
C;Accession: A70371
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R;Bult, C.J.; White, O.; Olsen, G.J.; Zhou, L.; Fleischmann, R.D.; Sutton, G.G.; Blal, R;Bult, C.J.; White, O.; Olsen, G.J.; Zhou, L.; Fleischmann, R.D.; Sutton, G.G.; Blal, Reich, C.J.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, Reich, C.J.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, R.; Reich, C.J.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, R.; Reich, C.J.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, R.; Reich, C.J.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, R.; Reich, C.J.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, R.; Reich, C.J.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, R.; Reich, C.J.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, R.; Kirkness, R.; Kirknes
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C; Superfamily: 1
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A;Residues: 1-286 <BUL>
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/Species: Methanococcus jannaschii
/Spate: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                              ;Gene: aq_814
;Superfamīly: Aeropyrum pernix hypothetical protein APE2212
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Residues: 1-288 <AQF>
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Pred. No.
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dek, A.
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RESULT

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conserved hypothetical protein AF0856 - Archaeoglobus fulgidus C;Species: Archaeoglobus fulgidus C;Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 09-Jul-2004 C;Accession: H69356 R;Klenk, H.P.; Clayton. R A . Tomb
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A;Map position: FOR1468504-1469382
A;Start codon: GTG
C;Superfamily: Aeropyrum pernix hypothetical protein APE2212
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A;Authors: Kaine, B.F.; Borodovsky, M.; Klenk, H.P.; Fraser, C.M.; Smith, H.O.; Woese, C. A;Title: Complete genome sequence of the methanogenic archaeon, Methanococcus jannaschii. A;Reference number: A64300; MUID:96337999; PMID:8688087
A;Accession: F64486
                                                                                                                            H72529
hypothetical protein APB2212 - Aeropyrum pernix (strain K1)
C;Species: Aeropyrum pernix
C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 09-Jul-2004
C;Accession: H72529
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A;Cross-references: UNIPROT:O29403; GB:AE001045; GB:AE000782;
C;Superfamily: Aeropyrum pernix hypothetical protein APE2212
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A;Authors: Utterback, T.; Cotton, M.D.; Spriggs, T.; Artiach, P.; Kaine, B.P.; Sykes, S.N. Smith, H.O.; Woese, C.R.; Venter, J.C.
A;Title: The complete genome sequence of the hyperthermophilic, sulfate-reducing archaeor A;Reference number: A69250; MUID:98049343; PMID:9389475
A;Accession: H69356
awa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Ku
DNA Res. 6, 83-101, 199
A;Tille: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyru
A;Reference number: A72450; MUID:99310339; PMID:10382966
                                                                             R;Kawarabayasi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.;
awa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki,
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A; Residues: 1-292 <BUL>
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C;Species: Methanococcus jannaschii
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Jul-2004
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90, 364-370, 1997
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Pred. No. 37;
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Pred. No. 37;
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irkness, E.F.;
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hypothetical protein alr3825 [imported] - Nostoc sp. (strain PCC 7120) C;Species: Nostoc sp. PCC 7120 A;Note: Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Jul C;Accession: AB2284
                                                                                                                         R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Bradman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim, ; Lory, S.; Olon, M.V.
Nature 406, 959-964, 2000
A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic pathc A;Reference number: A82950; MUID:20437337; PMID:10984043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S. DNA Res. 8, 205-213, 2001

A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Ana A;Reference number: AB1807; MUID:21595285; PMID:11759840

A;Accession: AB2284
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C;Superfamily: Aeropyrum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: UNIPROT:Q9Y9S6; DDBJ:AP000063; NID:g5105654; PIDN:BAA81224.1; PID:g5
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A;Molecule type: DNA
A;Residues: 1-295 <KAW>
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C;Superfamily: Aeropyrum pernix hypothetical protein
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                                                                    A;Gene: nhaP; PA3887
C;Superfamily: hypotl
                                                                                                                                                                                                                                                                                                                                                                             C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 09-Jul-2004
C;Accession: C83159
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A;Experimental source: strain PCC 7120
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                                                                                                                                                                                                                                  A;Reference number: A82950;
A;Accession: C83159
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A;Residues: 1-297 <KUR>
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Pred. No.
      Score
Pred.
                                                                                                                                                 GB:AE004806; GB:AE004091; NID:g9950067; PIDN:AAG072
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56;
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#text_change 09-Jul-2004
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ependymin precursor - goldfish N;Alternate names: preproepend C;Species: Carassin

carassius auratus (gold:

(goldfish)

RESULT JL0090

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hypothetical protein YNL041c - yeast (Saccharomyces N;Alternate names: hypothetical protein N2675 C;Species: Saccharomyces cerevisiae C;Date: 27-Apr-1996 #sequence_revision 03-May-1996 #C;Accession: S62963 C;Accession: S62963 Floeth, M.; Fritz, C.; Heuss-Nei R;Duesterhoeft, A.; Floeth, M.; Fritz, C.; Heuss-Nei
                                                                                                                                            A;Gene: VC2457
A;Map position: 1
C;Superfamily: holo-ACP
                                                                                                                                                                                                                                                                                                           A;Title: DNA Sequence of bot A;Reference number: A82035; A;Accession: F82072
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Nature 406, 477-483, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            holo-(acyl-carrier-protein) synthase VC2457 [imported] - Vibrio cholerae (strain N16961
C;Species: Vibrio cholerae
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A; Map position: 14L
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A;Cross-references: SGD:S0004986
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A;Cross-references: UNIPROT:P53959; EMBL:Z71317; NID:g1301893; PID:e239673; PID:g1301894.
A;Experimental source: strain S288C
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A;Reference number: S62944
A;Accession: S62963
A;Molecule type: DNA
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A;Experimental source: serogroup Ol; strain N16961; biotype El Tor
                                                                                                                                                                                                                                                       A; Molecule type: DNA
A; Residues: 1-126 <HEI>
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C;Accession: F82072
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35; MUID:20406833; PMID:10952301
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80.0%;
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Pred. No. 1.1e+02;
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base, April 1996
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A; Note: 24-Asp, 29-Gil, A; Note: 24-Asp, 29-Gil, V.E. R; Adams, D.S.; Shashous, V.E. Gene 141, 237-241, 1994
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A; Residues: 1-221 <DIE>
                                                                                                                                                                                                                                                                                                                     submitted to the EMBL Data Library, July 1995 A;Description: The sequence of S. cerevisiae A;Reference number: 869665 A;Accession: 869682
                                                                                                                                                                                                                                                                                                                                                                                                                     R; Dietrich, F.S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothetical protein YDR399w - yeast (Saccharomyces cerevisiae)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: DNA
A; Residues: 2-216 < ADA>
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A,Title: Cloning and sequencing the genes encoding goldfish A,Reference number: I51377; MUID:94215910; PMID:8163195
A,Accession: I51378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: protein
A; Residues: 22-27, 'X', 29-45;110-123 <KO2>
A; Residues: 22-27, 'X', 29-45;110-123 <KO2>
A; Note: ependymins beta and gamma have the same amino-terminal
A; Note: 24-Asp, 29-Glu, and 34-Ile were also found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type: mRNA
A;Residues: 1-216 <KOE>
A;Cross-references: UNIPROT:P13506; GB:X14134; NID:g62577;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: Molecular characterization of an ependymin precursor A; Reference number: JL0090; MUID:89068004; PMID:2908890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Date: 31-Dec-1991 #sequence revision 31-Dec-1991 #text_change 09-Jul-2004 C;Accession: JL0090; PS0306; T51378 R;Koenigstorfer, A.; Sterrer, S.; Eckerskorn, C.; Lottspeich, F.; Schmidt, J. Neurochem. 52, 310-312, 1989
                                                                                                                                                               A;Cross-references:
A;Map position: 4R
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary; translated from GB/EMBL/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Experimental source: brain
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Best Local S
Matches 4
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Reywords: calcium binding; cell adhesion; glycoprotein;

Reywords: signal sequence #status predicted <SIG>

;1-21/Domain: signal sequence #status predicted <SIG>

;1-21/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                   Species: Saccharomyces cerevisiae
;Date: 22-Aug-1996 #sequence_revision 06-Sep-1996 #text_change 09-Jul-2004
;Accession: 569682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /22-216/Product: ependymin #status experimental <MAT>
,72,95/Binding site: carbohydrate (Asn) (covalent) #status predicted
;181,183,185,186/Binding site: calcium (Glu, Glu, Asp, Asp) #status p
;202,203,206,207/Binding site: calcium (Glu, Glu, Asp, Asp) #status p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Comment: Ependymins beta and gamma are nervous-system specific glycoproteins Comment: These proteins are reported as brain proteins that display enhanced Comment: Ependymin forms dimer with intermolecular disulfide bonds.
                                                                                                                                                                                                                                                   Cross-references: UNIPROT:Q04178; EMBL:U32274; NID:g927313; PID:g927331; GSPDB:GN0000;
                                                                                                                                       Superfamily: Schizosaccharomyces
                                                                                                                                                                                                          Gene: SGD:HPT1; MIPS:YDR399w
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                                             Similarity 4; Conserv
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                                                                  89.3%;
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                                                                  Score 25;
Pred. No.
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Pred. No.
                                                                                                                                     pombe hypothetical protein SPAC23C11.13c
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                                                                  1.4e+02;
                                                                                          DB 2;
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C;Genetics:
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A;Map position: 1
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A; Reference number: A; Accession: T22325
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Best Local S
Matches 4
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A;Status: paralle type: DNA
A;Molecule type: DNA
A;Residues: 1-283 <BEN>
A;Residues: 1-283 <BEN>
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submitted to the EMBL Data Library, December 1995
A.Description: The sequence of C. elegans cosmid EGAP2.
                                                        hypothetical protein F46G10.3 - Caenorhabditie elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #te: C;Accession: T22325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Reference number: Z18430
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; chardeon, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, l, R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M. Nature 406, 477-483, 2000
A;Title: DNA Sequence of both chromosomes of the cholera patho A;Reference number: A82035; MUID:20406833; PMID:10952301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein VC1577 [imported] - Vibrio cholerae (strain N16961 serogroup C;Species: Vibrio cholerae C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 09-Jul-2004 C;Accession: C88182
submitted to the EMBL Data A; Reference number: 219548
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A;Experimental source: serogroup Ol; strain N16961; biotype El Tor
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A; Residues: 1-273 <HEI>
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4; Conserv
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                                                                            15-Oct-1999 #text_change
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1.8e+02;
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H.; Dragoi, I.; Sellers, P
                                                                                  09-Jul-2004
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A;Map position: X
A;Introns: 43/1; 77/2; 124/2; 151/2; 189/3; 250/3
C;Superfamily: conserved hypothetical protein b1120
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A; Residues: 1-287 <WIL>
                                                                                                                                                                                                                                                                                                                                                                                R;Yoshioka, S.; Kato, K.; Nakai, K.; Okayama, H.; Nojima, H.
DNA Res. 4, 363-369, 1997
A;Title: Identification of open reading frames in Schizosaccharomyces
A;Reference number: Z17323; MUID:98162722; PMID:9501991
A;Accession: T43158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Schizosaccharomyces pombe
C;Date: 11-Jan-2000 #text_change 16-Aug-2004
C;Accession: T43158
C;Accession: T43158
National Fig. Nation
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T43158
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                                                                                                                                                        A;Cross-references: EMBL:D89247; NID:g1749701; PIDN:BAA13908.1; PID:g1749702
A;Experimental source: strain PR745
C;Superfamily: WD repeat homology
C;Keywords: GTP binding
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A;Introns: 43/1; 77/2; 124/2; 151/2; 189/3; 250/3
C;Superfamily: conserved hypothetical protein b11
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A;Reference number: Z19548
A;Accession: T22324
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                                                                                                                                                                                                                                                                                                                    A;Status: preliminary; translated from GB/EMBL/DDBJA;Molecule type: mRNA
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C;Species: Schizosaccharomyces pombe
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A; Residues: 1-287 <WIL>
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                                                                  Local Similarity
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                                                               Score 25; DB 2;
Pred. No. 2e+02;
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Pred. No. 1.9e+02;
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Pred. No. 1.9e+02;
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                                                                                         Length 310;
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probable GTP-binding regulatory protein beta chain - fission yeast (Schizos N;Alternate names: guanine nucleotide regulatory protein C;Species: Schizosaccharomyces pombe C;Date: 11-Jan-2000 #sequence revision 11-Jan-2000 #text_change 16-Aug-2004 C;Accession: T43299; T39022 C;Accession: T43299; T39022 R;Park, S.K.; YOO, H.S.
                                                                                                                                                                                                                              RESULT
T43299
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C;Accession: H89884

R;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.;

ma, A.; Mizutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu,

C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.

Lancet 357, 1225-1240, 2001

A;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus.

A;Reference number: A89758; MUID:21311952; PMID:11418146

A;Accession: H89884
                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein M02B1.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T23675
                                                                                                                                                         A; Map position: 4
A; Introns: 31/2; 195/3;
                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-313 <WIL>
                                                                                                                                                                                                                                                                                                                                                      submitted to the EMBL Data Library, October 1996
A,Reference number: Z19780
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A; Residues: 1-312 < KUR>
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C;Date: 10-May-2001 #sequence_re
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                                                                                                                                                                                                A;Gene: CESP:M02B1.4
                                                                                                                                                                                                                                        A; Experimental source:
                                                                                                                                                                                                                                                          A; Cross-references: UNIPROT: Q93893;
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                                                                                                                                                                                                                                                                                                                                     A; Accession: T23675
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                                                                                               Local Similarity
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173 HYALS
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Pred. No. 2e+0
1; Mismatches
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Pred.
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2e+02;
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(Schizosaccharomyces

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RESULT 28
A86202
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                                     C;Accession: A86202
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
                                                                                                                                                                                                           hypothetical protein [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
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A; Residues: 1-324 < AER >
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C;Superfamily: WD repeat
C;Keywords: GTP binding
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A; Accession: T39022
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A;Experimental source: isolate ED616
R;Gentles, S.; Churcher, C.M.; Barrell, B.G.; Rajandream, M.A.; Wood,
submitted to the EMBL Data Library, August 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Gene: SPDB:SPAC694.04c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary; translated from GB/EMBL/DDBJ
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   Hunter,
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   J.L.; Jenkins,
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Pred. No. 2e+0
1; Mismatches
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Pred. No. 2.1e+0
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   Johnson-Hopson,
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    fission yeast (Schizosaccharomy)

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       Kin,
       ņ
                                                                                                         conserved hypothetical protein - Deinococcus radiodurans (strain R1) c;Speciles: Deinococcus radiodurans (;Speciles: Deinococcus radiodurans C;Date: 03.Dec.1999 #sequence_revision 03-Dec.1999 #text_change 03-Nov-2003 C;Accession: E75301
C;Accessi
, M.; Shen, M.; Vamathevan, S.; Smith, H.O.; Venter, J.C Science 286, 1571-1577, 1999 A;Title: Genome sequence of tA;Reference number: A75250; I
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A;Molecule type: DNA
A;Residues: 1-325 <STO>
A;Cross-references: UNIP:
C;Genetics:
A;Map position: 1
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C;Date: 20-Feb-1995 #sequence revision 20-Feb-1995 #text_change
C;Accession: S15238; JS6588; 524220
R;Verma, N.K.; Brandt, J.M.; Verma, D.J.; Lindberg, A.A.
Mol. Microbiol. 5, 71-75, 1991
Mol. Microbiol. 5, 71-75, 1991
A;Title: Molecular characterization of the O-acetyl transferase
A;Reference number: S15238; MUID:91194560; PMID:2014005
A;Accession: S15238
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                                                                                                                                                                                   A;Gene: oac
C;Keywords: acyltransferase
                                                                                                                                                                                                                                                       A;Molecule type: DNA
A;Residues: 1-157,'L',159-168,'Q',170-333 <CLA>
A;Cross-references: EMBL:X59553; NID:g15748; PID:g15750
C;Comment: This enzyme catalyzes O-acetylation of the O-antigen of the lipopolysaccharide
                                                                                                                                                                                                                                                                                                                                                 Gene 107, 43-52, 1991
A;Title: The oac gene encoding a lipopolysaccharide O-antigen
A;Reference number: JS0587; MUID:92077435; PMID:1720755
A;Accession: JS0588
                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:X56800; NID:g14867; PIDN:CAA40136.1; R;Clark, C.A.; Beltrame, J.; Manning, P.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N; Alternate names: acetyl
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                                                                                                               89.3%;
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                                                                                                               Score 25;
Pred. No.
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Pred. No.
                                                                                            Mismatches
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uence of the radioresistant bacterium A75250; MUID:20036896; PMID:10567266

Deinococcus

radiodurans

R1

J.D.; Dodson, T.; Zalewski,

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C;Genetics:
A;Gene: mod0; chlD
A;Map position: 17 min
C;Function:
C;Fuperfamily:
C;Superfamily:
C;Fuperfamily:
C;Fuperfa
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C;Date: 31-Dec-1990 #sequence revision 31-Oct-1997 #text_change 09-Jul-2004
C;Accession: E64812; B26871
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.;
A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617; PMID:9278503
A;Recession: E64812
A;Status: nucleic acid sequence not shown; translation not shown
molybdenum transport ATP-binding protein ModC STY0816 [imported] - C;Species: Salmonella enterica subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Title: Cloning and nucleotide sequence of the chlD locus. A;Reference number: A26871; MUID:87194564; PMID:3553151 A;Accession: B26871
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N;Alternate names: molybdenum transport
C;Species: Escherichia coli
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-338 <WHI>
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A;Residues: 1-243,'SALRDDR',251-268,'LRYYPHSGFRCFSWFYNRRSKP',269,'FVT',273,'AGKSC'
A;Cross-references: EMBL:X07875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R; Johann, S.; Hinton, S.M.
J. Bacteriol. 169, 1911-1916,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-352 <BLAT>
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C; Superfamily: un
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Experimental source: strain K-12,
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;Experimental source: strain R1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genetics:
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Best Local
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port protein chlD
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                                                                             Salmonella enterica
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, S.; Moule, S.; O'Gaora, P.
Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.;
A;Title: Complete genome sequence of a multiple drug resistant
A;Reference number: AB0502; MUID:21534947; PMID:11677608
A;Accession: AB0595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: DNA
A;Residues: 1-352 <STO>
A;Residues: 10352 <STO>
A;Cross-references: UNIPROT:Q8X4V7; GB:AE005174;
A;Experimental source: strain O157:H7, substrain C;Genetics:
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B85579
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-352 <HAY>
A;Cross-references: UNI
                                                                                                 R;Hayashi, T.; Makino, K.; Ohnishi, M.;
gasawara, N.; Yasunaga, T.; Kuhara, S.;
DNA Res. 8, 11-22, 2001
A;Title: Complete genome sequence of ent
                                                                                                                                                                     ATP-binding component of molybdate transport [imported] - Escherichia coli (strain O157:FC;Species: Escherichia coli C;Species: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004 C;Accession: A90728
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A90728
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C; Superfamily: molybdenum transport protein modC; ATP-binding cassette homology
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C; Superfamily:
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A; Residues: 1-352 < PAR>
                                                                A; Reference number: A99629;
A; Accession: A90728
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Best Local (
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245 HYAMT 249
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                                                                                    sequence of enterohemorrhagic Escherichia coli 0157:H7
29; MUID:21156231; PMID:11258796
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Pred. No.
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Pred. No.
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EDL933
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Potamousis, K.; Ag
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UNIPROT: Q8X4V7;

GB:BA000007;

PIDN:BAB34216.1; PID:g13360252; GSPDB:GN

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DNA Res. 8, 11-22, 2001
A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli 0157:H7
A;Reference number: A99629; MUID:21156231; PMID:11258796
A;Accession: F91073
A;Accession: F91073
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C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                      C;Accession: F91073
R;Hayashi, T.; Makino, K.; Ohnishi, M.;
gasawara, N.; Yasunaga, T.; Kuhara, S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Escherichia coli
C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004
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C;Keywords:
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-359 <PAR>
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Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.;
A;Title: Complete genome sequence of a multiple drug resistant Salmonella enterica serov
A;Reference number: AB0502; MUID:21534947; PMID:11677608
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C;Superfamily:
                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-361 <HAY>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AB0844
                                                                                                                                                               A;Gene: EC83558
                                                                                                                                                                                                                                                                                     A;Status: preliminary
                                                                                                                                                                                                   ;Cross-references: UNIPROT:Q8X872; GB:BA000007; PIDN:BAB36981.1; PID:g13363029; GSPDB:
;Experimental source: strain O157:H7, substrain RIMD 0509952
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Best Local
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347
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Pred. No. 2.3e
1; Mismatches
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Pred. No.
                                                                                                   Score 25;
Pred. No.
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                                                                                                2.4e+02;
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                                                                                                                      DB 2;
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N;Alternate nameë: mltB protein
C;Species: Escherichia coli
C;Species: Pecherichia coli
C;Date: 12-Sep_1997 #sequence_revision 17-Sep-1997 #text_change 09-Jul-2004
C;Accession: A65050; S65868; S77642
C;Accession: A65050; S65868; S77642
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; Col
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; Col
.A.; Rose, D.J.; Mau, B.; Shao, Y.
                                                                                                            A;Cross-references: EMBL:U18785; NID:g642537; PIDN:AAB60060.1; A;Note: the nucleotide sequence was submitted to the EMBL Data C;Genetics:
A;Gene: mltB
C;Keywords: glycosidase; hydrolase
F;1-18/Domain: signal sequence #status
F;19-361/Product: mltB protein #status
                                                                                                                                                                                                                                                                                    A;Title: Cloning and expression of a murein hydrolase lipoprotein from Escherichia coli.
A;Reference number: S77642; MUID:96065704; PMID:7476170
A;Accession: S77642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Title: Cloning and controlled overexpression of the gene encoding A;Reference number: S65868; MUID:95309413; PMID:7789526
A;Accession: S65868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: UNIPROT:P41052; GB:AE000354; GB:U000096; NID:g2367149; PIDN:AAC75743.J
A;Experimental source: strain K-12, substrain MG1655
R;Dijkstra, A.J.; Hermann, F.; Keck, W.
FEBS Lett. 366, 115.118, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12A;Reference number: A64720; MUID:97426617; PMID:9278503
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A;Cross-references: UNIPROT:Q8X872; GB:AE005174; NID:g12517141; PIDN:AAG57806.1; GSPDB:GhA;Experimental source: strain O157:H7, substrain EDL933
C;Genetics:
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                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-361 <EHL>
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A;Residues: 1-34,'A',36-361 <DIJ>
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Potamousis, K.; A
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th, T.; Connerton, P.; Cronin, A.; Davis, P.; Davies, R.M.; Dowd, L.; White, N.; Farrar, S.; Moule, S.; O'Gaora, P.
Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; A;Title: Complete genome sequence of a multiple drug resistant Salmonella enterica serov A;Reference number: AB0502; MUID:21534947; PMID:11677608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                probable membrane protein STY4872 (imported) - Salmonella enterica subsp. enterica serov C;Species: Salmonella enterica subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi C;Date: 09-Nov-2001 #sequence revision 09-Nov-2001 #text_change 18-Nov-2002 C;Accession: AB1068
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AB1068
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C;Species: Pseudomonas aeruginosa
C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 09-Jul-2004
C;Accession: H83088
R;Stover, C:K:; Pham, X:Q:; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Bradman, S:; Yuan, Y:; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim, Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
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C;Genetics:
A;Gene: STY4872
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A;Experimental source: strain PAO1
C;Genetics:
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A;Molecule type: DNA
A;Residues: 1-367 <STO>
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A;Reference number: A82950; MUID:20437337; PMID:10984043
A;Accession: H83088
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A; Residues: 1-394 < PAR>
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Local Similarity 80.0%;
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Pred. No. 2.6e+02;
1; Mismatches 0;
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Maximum Match 100%
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Perfect score:
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192.513 Million cell updates/sec
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1: uniprot_sprot:*
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/

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			er of acyl-ca	G MKSA."; 359:1819-1827(2002).	"Genome and virulence	Iwama N., Asa Hiramatsu	Takeuchi F		M N.A.	25-12	,	e seque	., Yamashita A.,	Hiraka	Macsum Y., Tak	hi A.,	Ohta T.,	1952: P	\ X \ Z \ Z \ Z \ Z \ Z		878,	i au	us aure	us aure	antethe	Holo-[acyl-carrier-protein]	(Re) 4	(Rel. 4		STAN		9	9.9	9	9.9	9 :	9 .	9.	89.3	00	•
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EMBL; AP003136; BAB43158.1; -.
EMBL; AP004829; BAB95860.1; -.
PIR; E8999; E89999.
HSSP; P96618; 1F7L.
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92AH6;
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
31-OCT-2004 (Rel. 45, Last annotation update)
HOLO-(acrier-protein) synthase (EC 2.7.8.7) (Holo-ACP (4'-phosphopantetheinyl transferase acps).
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ProDom; PD004282; ACPS; 1.
TIGRFAMs; TIGR00516; acpS; 1.
TIGRFAMs; TIGR00556; pantethn trn; 1.
Complete proteome; Fatty acid biosynthesis; Lipid
                                                                     EMBL; Y16431; CAA76220.1;
HSSP; P96618; 1F7L.
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Staphylococcus aureus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: Transfers the 4'-phosphopantetheine moiety from (A to a Ser of acyl-carrier protein (By similarity).

CATALYTIC ACTIVITY: COA + apo-[acyl-carrier protein] = ade:
3',5'-bisphosphate + holo-[acyl-carrier protein].

COFACTOR: Magnesium (By similarity).

SUBLELLULAR LOCATION: Cytoplasmic (By similarity).

SIMILARITY: Belongs to the P-Pant transferase superfamily.
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A Holden M.T.G., Feil E.J., Moore C.E., Hurst L., Atkin R., Barron A.,

Enright M.C., Foster T.J., Moore C.E., Hurst L., Atkin R., Barron A.,

Bason N., Bentley S.D., Chillingworth C., Chillingworth T.,

Churcher C., Clark L., Corton C., Cronin A., Doggett J., Dowd L.,

A Churcher C., Clark L., Corton B., Hauser H., Holroyd S., Jagels K.,

A Churcher C., Lennard N., Line A., Mayes R., Moule S., Mungall K.,

A James K.D., Lennard N., Line A., Mayes R., Moule S., Mungall K.,

A Ormond D., Quail M.A., Rabbinowitsch E., Rutherford K., Sanders M.,

A Ormond D., Quail M.A., Rabbinowitsch E., Rutherford K., Sanders M.,

A Sharp S., Simmonds M., Stevens K., Whitehead S., Barrell B.G.,

A Spratt B.G., Parkhill J.;

A Spratt B.G., Parkhill J.;

Parcomplete genomes of two clinical Staphylococcus aureus strains:

Tevidence for the rapid evolution of virulence and drug resistance.";

Proc. Natl. Acad. Sci. U.S.A. 101:9786-9791(2004).
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InterPro; IPR004568; Pantethn_trans
Pfam; PF01648; ACPS; 1.
                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                     Transferase
                                                                                                                                                                                                                                                   TIGRFAMs; TIGR00516; acpS; 1.
TIGRFAMs; TIGR00556; pantethn_trn;
                                                                                                                                                                                                                                                                                                      Pram; PF01648; ACPS; 1.
ProDom; PD004282; ACPS; 1.
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59
119 AA;
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F protein
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                                                                                                                                                                                                       13634 MW;
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Bacillales; Staphylococcus
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Last annotation update)
synthase (EC 2.7.8.7).
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Magnesium (By similarity).
, 0B828A811774B138 CRC64;
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Pred. No. 91;
0; Mismatches
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Pred. No.
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O58831;
O1-AUG-1998
O1-AUG-1998
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"Complete genomes of two clinical Staphylococcus aureus strains: evidence for the rapid evolution of virulence and drug resistance.";
Proc. Natl. Acad. Sci. U.S.A. 101:9786-9791(2004).
EMBL; BX571856; CAG441401; --
                                                                                                                                                                                                                                                     Kawarabayasi Y., Sawada M., Horikawa H., Haikawa Y., Hino Y., Yamamoto S., Sekine M., Baba S.-I., Kosugi H., Hosoyama A., Naga Sakai M., Ogura K., Otsuka R., Nakazawa H., Takamiya M., Ohfuku Funahashi T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Oguc Aoki K.-I., Yoshizawa T., Nakamura Y., Robb F.T., Horikoshi K., Masuchi Y., Shizuya H., Kikuchi H.;
"Complete sequence and gene organization of the genome of a hype thermophilic archaebatterium, Pyrococcus horikoshii OT3.";
                                                                        Complete
SEQUENCE
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InterPro; IPR004568; Pantethn_trans.
Pfam; PF01648; ACPS; 1.
ProDom; PD004282; ACPS; 1.
TIGRPAM8; TIGR00516; acpS; 1.
TIGRPAM8; TIGR00556; pantethn_trn; 1
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                                                                                                                                                         PIR;
                                                                                                                                                                                     EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OrderedLocusNames=PH1104;
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STRAIN=MRSA252;
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Bacteria, Firmicutes, Bacillales,
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Holo-[acyl-carrier protein] synthase (EC 2.7.8.7).
Name=acpS; ORFNames=SAR2159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ругососсив
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                                                                                                                                                                                                                                 DNA Res. 5:55-76(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=98344137; PubMed=9679194;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Archaea; Euryarchaeota;
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                                                                                                                                                         ; AP000005; BAA30203.1; A71051; A71051.
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                                                                        proteome; Hypothetical
143 AA; 16220 MW;
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(TrEMBLrel. 07, Last sequence update)
(TrEMBLrel. 24, Last annotation update)
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ales; Staphylococcus
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Pred. No.
    Score 28;
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48B66A1605A866E1 CRC64;
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Length 143;
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GO; GO:0005489; F:electron transporter activ
GO; GO:0006118; P:electron transport; IEA.
InterPro; IPR002386; Amicyanin.
InterPro; IPR00923; BlueCu 1.
InterPro; IPR01235; Copper_blue.
InterPro; IPR011572; Copper_blue_sub.
InterPro; IPR018972; Cupredoxin.
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Q8YBD5;
01-MAR-2002
01-MAR-2002
01-MAR-2004
                                                                                                                              OSRI70 PRELIMINARY; PRT; 185 AA.
OSRI70,
OSRI70,
O1-MAY-2000 (TrEMBLrel. 13, Created)
O1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
O1-MAY-2004 (TrEMBLrel. 26, Last annotation update)
Putative aminoglycoside nucleotidyltransferase.
OrderedLocusMames-SC0107; ORFNames-SCJ11.36c;
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Brucella melitensis.";

Proc. Natl. Acad. Sci. U.S.A. 99:443-448(2002)

Proc. Natl. Acad. Sci. U.S.A. 99:443-448(2002)
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MEDLINB=20020109; PubMed=11756688; DOI=10.1073/pnas.221575398;
DelVecchio V.G., Kapatral V., Redkar R.J., Patra G., Mujer C.,
Ivanova N., Anderson I., Bhattacharyya A., Lykidis A., Reznik G
Jablonski L., Larsen N., D'Souza M., Bernal A., Mazur M., Golte
Selkov E., Elzer P.H., Hagius S., O'Callaghan D., Letesson J.-U
Haselkorn R., Kyrpides N.C., Overbeek R.;
"The genome sequence of the facultative intracellular pathogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q8YBD5
                                                                        Streptomyces coelicolor.
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Complete proteome. SEQUENCE 146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PRO0155; AMICYANIN.
PRINTS; PR00156; COPPERBLUE.
Probom; PD001255; Copper_blue_sub; 1.
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Brucella melitensis
                                          Streptomycineae; Streptomycetaceae; Streptomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00127;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PIR; AD3630; AD3630.
HSSP; P04377; 1PAZ.
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Pred. No. 1.1e+02;
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M., Goltsman
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MEDLINE=21996410, PubMed=12000953; DOI=10.1038/417141a;

Bentley S.D., Chater K.F., Cerdeno-Tarraga A.-M., Challis G.L.,

Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H.,

Harper D., Bateman A., Brown S., Chandra G., Chen C.W., Collins M.,

Cronin A., Fraser A., Goble A., Hidalgo J., Hornsby T., Howarth S.,

Huang C.-H., Kieser T., Larke L., Murphy L.D., Oliver K., O'Neil S.,

Rabbinowitsch E., Rajandream M.A., Rutherford K.M., Rutter S.,

Seeger K., Saunders D., Sharp S., Squares R., Squares S., Taylor K.,

Warren T., Wietzorrek A., Woodward J.R., Barrell B.G., Parkhill J.,

"Governous Barrell B.G., Parkhill J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q6M194;
Q6M194;
05-JUL-2004
05-JUL-2004
                                                                                                                                                                                                                                                                                                                          "Complete genome sequence of the mesophilic hydrogenotrophic methanogen Methanococcus maripaludis."; Submitted (FEB-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; BX957219; CAF29579.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hendrickson E.L., Kaul R., Zhou Y., Bovee D., Chapman P., Chun Conway de Macario E., Dodsworth J., Gillett W., Graham D.E., Candove A.K., Kang A., Land M.L., Levy R., Lie T.J., Major T., Haydock A.K., Kang A., Land M.L., Levy R., Lie T.J., Moore B., Porat I., Overbeek R., Palmeiri A., Rouse G., Moore B., Porat I., Overbeek R., Palmeiri A., Rouse G., Senphimmachak C., Soll D., Whitman W.B., Larimer F.W., Olson
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Hendrickson E.L., Kaul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Methanococcus maripaludis,
Archaea; Euryarchaeota; Methanococci;
Methanococcaceae; Methanococcus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hypothetical protein.
OrderedLocusNames=MMP0023;
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PROSITE; PS00974; MANNITOL_DHGENASE; UNKNOWN_1.
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EMBL; AL939104; CAB52921.1;
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Pfam; PF01972; DUF114; 1.
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HYAMS 124
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                                                                                                                                                                                                                                                                                                                                                              Henne A., Brueggemann H., Raasch C., Wiezer A., Hartsch T., Liesegang H., Johann A., Lienard T., Gohl O., Martinez-Arias I Jacobi C., Starkuviene V., Schlenczeck S., Dencker S., Huber I Klenk H.-P., Kramer W., Merkl R., Gottschalk G., Fritz H.-J.; "The genome sequence of the extreme thermophile Thermus thermophilus.";
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                                                                                                                                                                                                                                 Nat. Biotechnoi. 22:547-553(2004).
EMBL; AE017304; AA681453.1; -.
GO; GO:0008233; F:peptidase activity;
InterPro; IPR002825; DUF114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Periplasmic serine protease. OrderedLocusNames=TTC1111;
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Submitted (FEB-2004) to the EMBL/GenBank/DDBJ databases.
EMBL, B3957219; CAF29579.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MMP0023.
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Bacteria; Deinococcus-Thermus; Deinococci; Thermales; Thermaceae;
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Hendrickson E.L.,
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NCBI_TaxID=39152;
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Archaea; Euryarchaeota; Methanococci; Methanococcales;
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Thermus thermophilus (strain HB27 / ATCC BAA-163 / DSM 7039).
Bacteria; Deinococcus-Thermus; Deinococci; Thermales; Thermac
                                                                                                                                                                                                                                                         Kawarabayasi Y., Sawada M., Horikawa H., Haikawa Y., Hino Y., Yamamoto S., Sekine M., Baba S.-I., Kosuyi H., Hosoyama A., Nagai Sakai M., Ogura K., Otsuka R., Nakazawa H., Takamiya M., Offuku Y. Funahashi T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Oguchi Aoki K.-I., Yoshizawa T., Nakamura Y., Robb F.T., Horikoshi K., Masuchi Y., Shizuya H., Kikuchi H.; Robb F.T., Horikoshi K., "Complete sequence and gene organization of the genome of a hyper-thermophilic archaebacterium, Pyrococcus horikoshii OT3.";
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PubMed=15064768;
                                                                          EMBL; AP000001; BAA29354.1; PIR; C71453; C71453. InterPro; IPR002825; DUF114. Pfam; PF01972; DUF114; 1.
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Archaea; Euryarchaeota;
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EMBL; AE017304; AAS81453.1; -.
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       Complete proteome; Hypothetical protein.
SEQUENCE 280 AA; 31784 MW; 6A8D616ED465D375 CRC64;
                                                                                                                                                                                                                          thermophilic archaebacterium, DNA Res. 5:55-76(1998).
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01-MAY-2000
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MEDLINE=22511545; PubMed=12622808;

MEDLINE=22511545; PubMed=12622808;

Cohen G.N., Barbe V., Flament D., Galperin M., Heilig R., Lecom Poch O., Prieur D., Querellou J., Ripp R., Thierry J.-C.,

Van der Oost J., Weissenbach J., Zivanovic Y., Forterre P.;

"An integrated analysis of the genome of the hyperthermophilic archaeon Pyrococcus abyssi.";

Mol. Microbiol. 47:1495-1512(2003).

EMBL; AJ248283; CAB49180.1; -.

EMBL; B75216; E75216.

InterPro; IPR002825; DUF114.

Pfam; PF01972; DUF114; 1.
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01-OCT-2002 (TrEMBLrel. 22,
Hypothetical protein PF0240
OrderedLocusNames=PF0240;
                                                                MEDLINE=21079003; PubMed=11210495;
Robb F.T., Maeder D.L., Brown J.R., DiRuggiero J.,
Yeh R.K., Weise R.B., Dunn D.M.;
"Genomic sequence of hyperthermophile, Pyrococcus
implications for physiology and enzymology.";
Meth. Enzymol. 330:134-157(2001).
                                                                                                                                                                                                             SEQUENCE FROM N.A. STRAIN=DSM 3638;
                                                                                                                                                                                                                                                                           NCBI_TaxID=2261;
                                                                                                                                                                                                                                                                                                                                                        Pyrococcus furiosus.
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STRAIN=Vc1 / DSM 3638 / ATCC 43587 / JCM 8422;
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InterPro; IPR002825; DUF114.
InterPro; IPR002142; Peptidase_S49.
Pfam; PF01972; DUF114; 1.
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"The complete sequence of the Pyrococcus furiosus
Submitted (FEB-2002) to the EMBL/GenBank/DDBJ data
EMBL; AE010149; AAL90364.1; -.
InterPro; IPR002825; DUF114.
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Nelson K.E., Clayton R.A., Gill S.R., Gwinn M.L., Dddson R.J.,
Haft D.H., Hickey E.K., Peterson J.D., Nelson W.C., Ketchum K.A.,
McDonald L.A., Utterback T.R., Malek J.A., Linher K.D., Garrett M.M.,
Stewart A.M., Cotton M.D., Pratt M.S., Phillips C.A., Richardson D.L.,
Heidelberg J.F., Sutton G.G., Pleischmann R.D., Eisen J.A., White O.,
Salzberg S.L., Smith H.O., Venter J.C., Fraser C.M.;
"Evidence for lateral gene transfer between Archaea and Bacteria from
genome sequence of Thermotoga maritima.";
Hypothetical protein MJ01
OrderedLocusNames=MJ0137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF01972; DUF114; 1.
ProDom; PD002897; Peptidase S49; 1.
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EMBL; AE001755; AAD35997.1; -.
PIR; C72320; C72320.
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                            (Rel. 35, Created)
(Rel. 35, Last sequence update)
(Rel. 44, Last annotation updat
protein MJ0137.
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2D0B0D47CDF66121 CRC64;
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databases.
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Matches 5
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                                                                                                                                                                                                                                                                                 066996;
01-AUG-1998
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MEDLINE-96337999; PubMed-8688087;

Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,

Sutton G.G., Blake J.A., FitzGerald L.M., Clayton R.A., Gocayne J.D.,

Kerlavage A.R., Dougherty B.A., Tomb J.F., Adams M.D., Reich C.L.,

Overbeek R., Kirkness B.F., Weinstock K.G., Merrick J.M., Glodek A.,

Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D.,

Utterback T.R., Kelley J.M., Peterson J.D., Sadow P.W., Hanna M.C.,

Cotton M.D., Roberts K.M., Hurst M.A., Kaine B.P., Borodovsky M.,

Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.;

"Complete genome sequence of the methanogenic archaeon, Methanococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/an or send an email to license@isb-sib.ch).
             Nature 392:353-358(1998).
EMBL; AE000708; AAC06959.1;
PIR; A70371; A70371.
InterPro; IPR002825; DUF114.
                                                                                    Deckert G., Warren P.V., Gaasterland T., Young W.G., Lenox A.L., Graham D.B., Overbeek R., Snead M.A., Keller M., Aujay M., Huber Feldman R.B., Short J.M., Olsen G.J., Swanson R.V.; "The complete genome of the hyperthermophilic bacterium Aquifex
                                                                          aeolicus
                                                                                                                                               STRAIN=VF5;
MEDLINE=98196666; PubMed=9537320;
                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                        NCBI_TaxID=63363;
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-!- SIMILARITY: STRONG, TO M.JANNASCHII MJ1495.
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PF01972; DUF114; 1.
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RESULT 19
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DE Hypothetical
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029403;
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01-JAN-1998
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SEQUENCE
     Hypothetical protein MJ14
OrderedLocusNames=MJ1495;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF01972; DUF114; 1.
ProDom; PD002897; Peptidase S49; 1.
Complete proteome; Hypothetical pro
SEQUENCE 291 AA; 32891 MW; 5D2C
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TIGR; AF0856; -.
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NCBI_TaxID=2234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hypothetical protein AF0856. OrderedLocusNames=AF0856;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
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InterPro; IPR002142; Peptidase_S49.
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GO:0006508; P:proteolysis and peptido
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                             (Rel. 35, Created)
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protein MJ1495.
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(C STRAIN M.C., Camaran E.F., Cardozo J., Van Sluys M.A., Almeida N.F.,

(C C STRAIN M.C., Camaran E.F., Cardozo J., Chambergo F., Ciapina L.P.,

(C C STRAIN M.B., Couttinho L.L., Cursino-Santos J.R., El-Dorry H.,

(C C STRAIN J.B., Ferreita A.J.S., Ferreira R.C.C., Ferro M.I.T.,

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(C STRAIN J.B., Ferreira R.C.C., Grouber A.,

(C STRAIN J.B., Kishi L.T., Leite R.P., Lemos B.G.M., Lemos M.V.F.,

(C STRAIN J.B., Machado M.A., Madeira A.M.B.N., Martinez-Rossi N.M.,
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Q8P8B3;
01-OCT-2002
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Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,
Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,
Sutton G.G., Blake J.A., Fitzderald L.M., Clayton R.A., Gocayne J.D.,
Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Reich C.I.,
Overbeek R., Kirkness E.F., Weinstock K.G., Merrick J.M., Glodek A.,
Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D.,
Utterback T.R., Kelley J.M., Peterson J.D., Sadow P.W., Hanna M.C.,
Cotton M.D., Roberts K.M., Hurst M.A., Kaine B.P., Borodovsky M.,
Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.;
Complete genome sequence of the methanogenic archaeon, Methanococcus
Jannaschii."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Science 273:1058-1073(1996).
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Archaea; Euryarchaeota; Methanococci; Metl
Methanocaldococcaceae; Methanocaldococcus
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Bacteria; Proteobacteria; Gammaproteobacteria; Xanthomonadales;
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01-MAR-2002
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01-NOV-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=99310339; PubMed=10382966; Kawarabayasi Y., Hino Y., Horikawa H., Yamazaki S., Haikawa Jin-no K., Takahashi M., Sekine M., Baba S.-I., Ankai A., Kc Hosoyama A., Fukui S., Nagai Y., Nishijima K., Nakazawa H., Takamiya M., Masuda S., Funahashi T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Kubota K., Nakamura Y., Nomura N., Sako Y., Kikuchi H.; "Complete genome sequence of an acrobic hyper-thermophilic
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01-NOV-1999 (TrEMBLrel. 12, Last
01-JUN-2003 (TrEMBLrel. 24, Last
Hypothetical protein APE2212.
OrderedLocusNames=APE2212;
  Alr3825 protein.
OrderedLocusNames=alr3825;
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EMBL; AE012341; AAM41608.1; -.

Complete proceome; Hypothetical protein.

SEQUENCE 292 AA; 31426 MW; 24A2E2E90
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Complete proteome; Hypothetical protein SEQUENCE 295 AA; 32651 MW; 64D00COE
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PF01972; DUF114; 1.
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RESULT 23
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This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restrues by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sior send an email to license@isb-sib.ch)
                                                                                                                                                                                                                             Nelson K.E., Fleischmann R.D., DeBoy R.T., Paulsen I.T., Fout Eisen J.A., Daugherty S.C., Dodson R.J., Durkin A.S., Gwinn M. Haft D.H., Kolonay J.F., Nelson W.C., Mason T.M., Tallon L., Granger D., Tettelin H., Dong H., Galvin J.L., Duncan M.J., Dewhirst F.E., Fraser C.M., "Complete genome sequence of the oral pathogenic bacterium Porphyromonas gingivalis strain W83.";
J. Bacteriol. 185:5591-5601(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-MAR-2004 (Rel. 43, Created)
29-MAR-2004 (Rel. 43, Last sequence update)
01-OCT-2004 (Rel. 45, Last annotation update)
Ferrochelatase (EC 4.99.1.1) (Protoheme ferro-lyase)
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EMBL; AP003594; BAB75524.1;
PIR; AB2284; AB2284.
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Yasuda M., Tabata S.; 
"Complete genomic sequence of the filamentous nitrogen-fixing 
Cyanobacterium Anabaena sp. strain PCC 7120.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,
Watanabe A., Iriguchi M., Ishikawa A., Kawashima K., Kimura T.,
Kishida Y., Kohara M., Matsumoto M., Matsuno A., Muraki A.,
Nakazaki N., Shimpo S., Sugimoto M., Takazawa M., Yamada M.,
                                                                                                                                                              -I- FUNCTION: Catalyzes the ferrous insertion into prot-

I- CATALYTIC ACTIVITY: Protoporphyrin + Fe(2*) = proto-

I- PATHWAY: Protoheme biosynthesis; last step.

I- SUBCELLULAR LOCATION: Cytoplasmic (By similarity).
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Bacteria; Bacteroidetes; Bacteroides (class); Bacteroidales;
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GO; GO:0006508; P:proteolysis and peptidolysis;
InterPro; IPR002825; DUF114.
InterPro; IPR002142; Peptidase_S49.
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MEDLINE=21595285; PubMed=11759840;
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Bacteria; Cyanobacteria; Nostocales; Nostocaceae; Nostoc.
                                                                                                                                              -!- SIMILARITY: Belongs to the ferrochelatase family.
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Pred. No. 2.3e+02;
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protoheme + 2 H(+).
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Pfam; PF00999; Ne
Transmembrane; T
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082871;
01-NOV-1998
01-NOV-1998
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                Q7DC93;
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Bacteria; Proteobacteria;
Pseudomonadaceae; Pseudomo
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Complete proteome; Heme blosynthesis; Iron;
Porphyrin blosynthesis.
METAL 199 199 Iron (By simila
METAL 302 302 Iron (By simila
SEQUENCE 345 AA; 39561 MW; 1A4D7EFBB8700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=98322119; PubMed=9655928;
Utsugi J., Inaba K., Kuroda T., Tsuda M.,
"Cloning and sequencing of a novel Na+/H+
Pseudomonas aeruginosa.";
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AB010827; BAA31695.1; -.
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STRAIN-VPI-5482 / ATCC 29148;
MEDLINE=22550858 / PubMed=12663928;
MEDLINE=22550858 / PubMed=12663928;
Xu J., Bjursell M.K., Himrod J., Deng S., Carmichael L.K.,
Chiang H.C., Hooper L.V., Gordon J.I.;
"A genomic view of the human Bacteroides thetaiotaomicron symbiosis.";
Science 299:2074-2076(2003).
Science 299:2074-2076(2003).
EMBL; AE016935; AA077360.1; -...
GO; GO:0005215; F:transporter activity; IEA.
GO; GO:0006810; P:transport; IEA.
InterPro; IPR003423; OEP.
Pfam; PF02321; OEP; 2.
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STRAINAATCC 15692 / PAO1;

MEDLINE=20437337; PubMed=10984043;

MEDLINE=20437337; PubMed=10984043;

Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P.,

Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M.

Garber R.L., Goltry L., Tolentino E., Westbrock-Wadman S., Yuan Y.,

Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,

Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T.,

Smith K.A., Spencer D.H., Hancock R.E.W., Lory S., Olson M.V.;

"Complete genome sequence of Pseudomonas aeruginosa PAO1, an

opportunistic pathogen.";

Nature 406:959-964(2000).

EMBL, AE004806; AGG7774.1;

EMBL, AE004806; AGG7774.1;
                                                                                                                                                                                                                                                                                 Complete
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-2003 (TrEMBLrel.
01-OCT-2003 (TrEMBLrel.
Putative outer membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteroidaceae; Bacteroides.
NCBI_TaxID=818;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-2003
01-JUN-2003
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Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacteroides thetaiotaomicron.
Bacteria; Bacteroidetes; Bact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OrderedLocusNames=BT225.
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170 HYAMS
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ilarity 100.0%;
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174
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Last annotation updat
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Pred. No.
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Pred. No. 3.
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8E116A82C5825628 CRC64;
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RESULT Q6N245

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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=CGA009 / ATCC BAA-98;

PubMed=14704707; DOI=10.1038/nbt923;

Puthmed F.W., Chain P., Hauser L., Lamerdin J.B., Malfatt.

Lard M.L., Pelletier D.A., Beatty J.T., Lang A.S., Tabita

Gibson J.L., Hanson T.B., Bobst C., Torres y Torres J.L.,

Harrison F.H., Gibson J., Harwood C.S.;

"Complete genome sequence of the metabolically versatile

photosynthetic bacterium Rhodopseudomonas palustris.";

Nat. Biotechnol. 22:55-61(2004).
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Q6N245;
O5-JUL-2004
O5-JUL-2004
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02-MAR-2004
02-MAR-2004
02-MAR-2004
                                                                                                                                                                                              Larimer F.W., Chain P., Hauser L., Lamerdin J., Malfatti S., Do Land M.L., Pelletter D.A., Beatty J.T., Lang A.S., Tabita F.R., Gibson J.L., Hanson T.E., Bobst C., Torres y Torres J.L., Peres Harrison F.H., Gibson J., Harwood C.S.; "Complete genome sequence of the metabolically versatile photosynthetic bacterium Rhodopseudomonas palustris."; Nat. Biotechnol. 22:55-61 (2004).

EMBL; BX572606; CAB29646.1; ".

EMBL; BX572606; CAB29646.1; ".
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SEQUENCE FROM N.A.
STORMATCHEROM PARCHES / ATCC BAA-98;
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02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
possible polysaccharide export protein, PST family.
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EMBL; BX572606; CAE29646.1; -.
InterPro; IPR002797; Polysacc_synt.
Pfam; PF01943; Polysacc_synt; 1.
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Bacteria; Proteobacteria; A
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296 HYAMS 300
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                                                                                                   Conservative
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Beatty J.T., Lang A.S., Tabita F.R.
Bobst C., Torres y Torres J.L., Pere
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                                                                                                Score 28; DE
Pred. No. 3.6
0; Mismatches
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hes 0; Indels
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01-JUN-2003 (TrEM
01-JUN-2003 (TrEM
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B111490 protein.
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                                          pathogenic yeast Candida parapsilosis.";
Submitted (NOV-2003) to the EMBL/GenBank/DDBJ databases.
-!- CATALYTIC ACTIVITY: NADH + ubiquinone = NAD(+) + ubi
-!- SUBCELLULAR LOCATION: Integral membrane protein, mit
inner membrane (Probable).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-FEB-1996 (Rel. 33, Created)
05-UTL-2004 (Rel. 44, Last sequence update)
05-UTL-2004 (Rel. 44, Last annotation update)
NADH-ubiquinone oxidoreductase chain 5 (EC 1.6.5.3)
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Kaneko T., Nakamura Y., Sato S., Minamisawa K., Uchiumi T.,
Sasamoto S., Watanabe A., Idesawa K., Iriguchi M., Kawashima K.
Kohara M., Matsumoto M., Shimpo S., Tsuruoka H., Wada T., Yamad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     dehydrogenase subunit 5).
Name=ND5; Synonyms=NAD5;
Candida parapsilosis (Yeast).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bradyrhizobium japonicum.
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
                                                                                                                                                                            Nosek J., Novotna M.,
Tomaska L.;
                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN=SR23 / CBS 7157;
                                                                                                                                                                                                                                                                                                                         Nosek J., Fukunara n., "NADH dehydrogenase subunit genes
                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=SR23 / CBS 7157;
MEDLINE=94364940; PubMed=7521869;
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. STRAIN=SR23 / CBS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomycetales; mitosporic NCBI_TaxID=5480;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Fungi; Ascomycota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Candida parapsilosis Mitochondrion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P48919;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NU5M_CANPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Complete proteome. SEQUENCE 464 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bradyrhizobium japonicum USDA110.";
DNA Res. 9:189-197(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=375;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bradyrhizobiaceae; Bradyrhizobium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OrderedLocusNames=bll1490;
                       -!- SIMILARITY: Belongs to the complex I
                                                                                                                                                         "Complete DNA sequence of the linear mitochondrial
                                                                                                                                                                                                                                                                                                                    yeasts.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Complete genomic sequence of nitrogen-fixing symbiotic bacterium
                                                                                                                                                                                                                                                                                               Bacteriol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       309 HYAMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         l Similarity
5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 HYAMS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; ilarity 100.0%; Conservative 0;
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                                                                                                                                                                                                                                                                                               176:5622-5630(1994).
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                                                                                                                                                                                                      Hlavatovicova Z.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24,
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Last sequence update)
Last annotation update)
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Pred. No. 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Saccharomycotina; Saccharomycetes; Saccharomycetales; Candida.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        733DFC702255DD3E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                          ij
                                                                                                                                                                                                                                                                                                                                            the mitochondrial DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          555
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                                                                                                                                                                                                      Ussery D.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2;
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                       subunit
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                       ഗ
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                                                                      mitochondrial
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Best Local S
Matches S
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InterPro; IPR003945; NADHD_oxred5.
InterPro; IPR003916; NADHDb_oxred5.
InterPro; IPR003916; Oxidored q1.
InterPro; IPR001516; Oxidored q1_N.
Pfam; PF00451; NADH5 C; 1.
Pfam; PF00361; Oxidored q1; 1.
Pfam; PF00662; Oxidored q1, 1.
PRINTS; PR01334; NADHDHGNASE5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YEAST
COD2 YEAST
P53959;
                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                     Dev. Cell 1:527-537(2001).

1- SUBUNIT: Component of the Sec34/Sec35 complex which consists eight different proteins.

-1- SIMILARITY: Belongs to the COG6 family.
                                                                                                                                                                                                                                                       Whyte J.R., Munro S.;
"The Sec34/35 Golgi transport complex is related to
defining a family of complexes involved in multiple
                                                                                                                                                                                                                                                                                                                                                                 Moestl D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-OCT-1996 (Rel. 34, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
COD2 protein (Complexed with DOR1 protein 2).
Name=COD2; Synonyms=TFI2; OrderedLocusNames=YNL041C; ORFNames=N2675;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entities requires a license agreement (See http:\overline{//www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                            EMBL; Z71317; CAA95908.1; PIR; S62963; S62963.
                                                                                                                                                                                                                                                                                                                        LINDARS
                                                                                                                                                                                                                                                                                                                                                  Submitted (MAY-1996) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
Duesterhoeft A., Floeth M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mitochondrion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X74411; CAE54609.1;
                                                                                                                                                                                                                                                                                                        MEDLINE=21563418; PubMed=11703943;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Saccharomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGRFAM8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                          TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               434 HYAMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 HYAMS 5
                                                                       an
                                                                       requires a license agreement (S
an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGR01974; NDH I L; 1.
rion; NAD; Oxidoreductase; Ubiquinone.
555 AA; 62517 MW; 60423C2CEE556ACE
                  143048;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .0%; Score 28; DE .0%; Pred. No. 4.4
                                                                                                                                                                                                                                                                                                                                                                            Fritz C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60423C2CEE556ACD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        839
                                                                                                                                                                                                                                                                                                                                                                             Heuss-Neitzel D.,
                                                                                    (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1;
                                                                                                                                                                                                                                                                                                                                                   databases
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                                                                                                                                                                                                                                                             the exocyst steps of mer
                                                                                                                                                                                                                                                                                                                                                                             Hilbert H.,
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                                                                                                                                                                                                                                                                membrane
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RESULT 33 S24B HUMAN ID S24B H AC 0954B7 DT 16-OCT DT 16-OCT DT 05-JUL

STANDARD;

PRT;

1268

B

-S24B HUMAN 095487; 16-OCT-2001 16-OCT-2001 05-JUL-2004

(Rel. 40, Created)
(Rel. 40, Last sequence update)
(Rel. 44, Last annotation update)

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RESULT 32
Q6CHS4
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Best Local (
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Best Local
                                                                                                                                                                                                                                                                                             Dujon B., Sherman D., Fischer G., Durrens P., Casaregola S.,
Lafontaine I., de Montigny J., Marck C., Neuveglise C., Talla E.,
Goffard N., Frangeul L., Aigle M., Anthouard V., Babour A., Barbe V.,
Barnay S., Blanchin S., Beckerich J.M., Beyne E., Bleykasten C.,
Boisrame A., Boyer J., Cattolico L., Confanioleri F., de Daruvar A.,
Bespons L., Fabre E., Fairhead C., Ferry-Dumazet H., Groppi A.,
Hantraye F., Hennequin C., Jauniaux N., Joyet P., Kachouri R.,
Kerrest A., Koszul R., Lemaire M., Lesur I., Ma L., Muller H.,
Kerrest A., Koszul R., Lemaire M., Lesur I., Ma L., Muller H.,
Nicaud J.M., Nikolski M., Oztas S., Ozier-Kalogeropoulos O.,
Pellenz S., Potier S., Richard G.F., Straub M.L., Suleau A.,
Swennene D., Tekaia F., Wesolowski-Louvel M., Westhof E., Wirth B.,
Zeniou-Meyer M., Zivanovic I., Bolotin-Fukuhara M., Thierry A.,
Bouchier C., Caudron B., Scarpelli C., Gaillardin C., Weissenbach J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GO; GO:0017119; C:Golgi transport complex; IPI.
GO:0006891; P:intra-Golgi transport; IGI.
InterPro; IPR010490; COG6.
Pfam; PF06419; COG6; 1.
Golgi stack; Membrane; Protein transport; Transport.
SEQUENCE 839 AA; 96975 MW; 6484A40F999AD787 CRC6
                                                                                                                                      Genoscope;
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases
EMBL; CR382127; CAG83712.1; -. ENGL/GenBank/DDBJ CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORFNames=YALIOA05533g;
Yarrowia lipolytica (Candida lipolytica).
Eukaryota; Pungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Dipodascaceae; Yarrowia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-2004 (TrEMBLrel. 28, Created)
01-OCT-2004 (TrEMBLrel. 28, Last sequence update)
01-OCT-2004 (TrEMBLrel. 28, Last annotation update)
01-OCT-2004 (TrEMBLrel. 28, Last annotation update)
Chromosome A of strain CUIB99 of Yarrowia lipolytica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q6CHS4;
01-OCT-2004
                                                                                                                                 SEQUENCE
                                                                                                                                                                                                  STRAIN=CLIB99;
                                                                                                                                                                                                                                                                                 Bouchier C., Caudron B., Wincker P., Souciet J.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENOLEVURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=4952;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q6CHS4
                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                   Nature 430:35-44(2004).
                                                                                                                                                                                                                                                                    "Genome evolution in yeasts.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 78
36 HYAMS
                                                             l Similarity
5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 HYAMS
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5; Conserv
                             1 HYAMS 5
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                                                                                                                                 1012 AA;
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                                                                Conservative
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                                                                              100.0%; Score 28; 100.0%; Pred. No.
                                                                                                                                 113158 MW;
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Pred. No. 6.8e+02
                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                 E12C7D1BF427807C CRC64;
                                                                             8.2e+02;
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                                                                                                  DB 2;
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                                                                                              Length 1012;
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Protein transport protein Sec24B (SEC24-related protein

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RESULT 34
Q9VLT1
ID Q9VLT
AC Q9VLT
DT 01-MA
DT 01-OC
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Best Local S
Matches 5
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GO; GO:0030138; C:COPII-coated vesicle; TAS.

GO; GO:0016020; C:membrane; TAS.

GO; GO:0016192; F:transporter activity; TAS.

GO; GO:0016192; P:vesicle-mediated transport; TAS.

GO; GO:0016192; P:vesicle-mediated transport; TAS.

InterPro; IPR00690; Sec23_helical.

InterPro; IPR00690; Sec23_trunk.

InterPro; IPR006896; Sec23_trunk.

InterPro; IPR006896; Sec23_trunk.

InterPro; IPR006895; Sec23_trunk.

Pfam; PF04815; Sec33_helical.

Pfam; PF04815; Sec23_helical.

Pfam; PF04810; zf-Sec23_sec24; 1.
 Q9VLT1 PRELIMINARY;
Q9VLT1; Q9VLT2;
01-MAY-2000 (TrEMBLrel. 13,
01-OCT-2002 (TrEMBLrel. 22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Bithe European Bioinformatics Institute. There are no restuse by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IntAct; 095487; -.
Genew; HGNC:10704; SEC24B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=SEC24B;
Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                         Protein transport; Transport.
DOMAIN 605 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pagano A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=99175155; PubMed=10075675;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Sec24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Biol. Chem. 274:7833-7840(1999).

FUNCTION: Component of the COPII coat, that covers ER-derived vesicles involved in transport from the endoplasmic reticulum to the Golgi apparatus. COPII acts in the cytoplasm to promote the transport of secretory, plasma membrane, and vacuolar proteins from the endoplasmic reticulum to the Golgi complex.

SUBUNIT: COPII is composed of at least five proteins: the Sec23/24 complex, the Sec13/31 complex and Sarl. Sec24B is capable of forming heterodimers with Sec24A.

SUBCELLULAR LOCATION: Cytoplasmic and perinuclear.

TISSUE SPECIFICITY: Expressed in fibroblasts, hepatocytes, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            lymphocytes.
SIMILARITY: Belongs to the SEC23/SEC24 family. SEC24 subfamily.
                                                                                                                                     182 HYAMS 186
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P40482;
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                                                                                                                                                                     1 HYAMS 5
                                                                                                                                                                                                       Similarity 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Paccaud J.-P.;
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1268
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Primates;
                                                                                                                                                                                                                        100.0%; Score 28; DB 1; Length 1268; 100.0%; Pred. No. 1e+03;
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Created)
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   sequence update)
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                                                   1675
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RX MEDLINES 2019606; PubMed=10731132;
RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., Celniker S.E., Holt R.M., Hoskins R.A., Galle R.F.,
RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA George R.C., Wortman J.R., Yandell M.D., Zhang Q., Chan L.X.,
RA Hrain G.G., Wortman J.R., Yandell M.D., Zhang Q., Chan L.X.,
RA Harlin W.F., Apbayani A., Blazel R.G., Helt G., Nelson C.R., Gabor G.L.,
RA Abril J.F., Apbayani A., An H.J., Andrews-Pfannkoch C., Baldwin D.,
RA Ballaw R.M., Basu A., Baxendale J., Bayraktaroğlu L., Beasley E.M.,
RA Beson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Burtis K.C., Busam D.A., Buller H., Caddeu B., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davises P.,
RA Bodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dun P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dun P.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Hostin D., Houston K.A., Howland T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Hernandez J.R., Houck J.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Hostin D., Houston K.A., Nixon K., Nusskern D.R., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Reinert K., Remington K., Saunders R.D., Scheeler F., Shen H.,
RA Reinert K., Remington K., Saunders R.D., Scheeler F., Shen H.,
RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Spier E., Shen M., Woodage T., Wolley K.C., Mu D., Yang S., Yao Q.A., Ye J.,
RA Hostin G., Shen
                                                                                                                                                                                                                                                   Celniker S.E., Wheeler D.A., Kronmiller B., Carlson J.W., Halpern A Patel S., Adams M., Champe M., Dugan S.P., Frise E., Hodgson A., George R.A., Hoskins R.A., Laverty T., Muzny D.M., Nelson C.R., Pacleb J.M., Park S., Pfeiffer B.D., Richards S., Sodergren E.J., Svirskas R., Tabor P.E., Wan K., Stapleton M., Sutton G.G., Venter Weinstock G., Scherer S.E., Myers E.W., Gibbs R.A., Rubin G.M., "Finishing a whole-genome shotgun: release 3 of the Drosophila melanogaster euchromatic genome sequence.", Genome Biol. 3:RESEARCH0079-RESEARCH0079 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Drosophila melanogaster (Fruit fly).
Bukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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                                                                                                                                               Kaminker J.S., Bergman Patel S., Frise E., Whe
                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=22426065; PubMed=12537568;
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                    SEQUENCE FROM N.A.
                                                                                                                               Ashburner M., Celniker S
                                                                                                                                                                                         MEDLINE=22426070; PubMed=12537573;
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                                                                                                      "The transposable elements of the Drosophila melanogaster euchromatin
                                                            Biol.
                                                              perspective.";
l. 3:RESEARCH0084-RESEARCH0084(2002)
PubMed=12537572
                                                                                                                                            man C.M., Kronmiller
Wheeler D.A., Lewis
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                                                                                                                                                 B., Ca
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                                                                                                                                                                     Carlson
                                                                                                                                                   Rubin
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RESULT 36
Q6TFA8
ID Q6TFA
AC Q6TFA
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Q6TFA8;
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Q86DB6;
Q1-JUN-2003 (TrEMBLrel. 24,
01-JUN-2003 (TrEMBLrel. 24,
01-OCT-2003 (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S., Hradecky P., Huang Y., Kaminker J.S., Millburn G.H., Prochnik S.E., Smith C.D., Tupy J.L., Whitfied E.J., Bayrakaroglu L., Berman B.P., Bettencourt B.R., Celniker S.E., de Grey A.D., Drysdale R.A., Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q., Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q., Harris N.L., Richter J., Russo S., Schroeder A.J., Russo G.M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.

MEDLINE=22586101; PubMed=12701103;

Oda-Ishii I., Saiga H.;

"Genomic organization and promoter and transcription regulatory
regions for the expression in the anterior brain (sensory vesicle) of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Intact; Q9VLT1; -... CG8683. FlyBase; FBgn0031985; CG8683. InterPro; IPR008938; ARM.
                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Halocynthia roretzi (Sea squirt).
Eukaryota; Metazoa; Chordata; Urochordata;
Stolidobranchia; Pyuridae; Halocynthia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (MAR-2004) to the EMBL; AE003620; AAF52603.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=Hroth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FLYBASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (SEP-2002)
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                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                  Nuclear protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=7729;
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mes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                             th, the otx homologue of the ascidian, Halocynthia roretzi.";
Dyn. 277:104-113(2003).
L; AB104851; BAC7668-1; -.
GO:0005634; C:nucleus; IEA.
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation updat
                                                                                                                                                                                                                                                        Lau Y.L., Leung K.Y.; Submitted (SEP-2003) to the EMBL/GenBank/DDBJ EMBL; AY422732; AAR06612.1; -.
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02-MAR-2004 (TrEMBLrel.
02-MAR-2004 (TrEMBLrel.
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Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY422732; AAR06612.1; -.
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Aeromonas hydrophila.
Bacteria, Proteobacteria,
                                                                                                                                                                                                                Hypothetical protein.
56 AA; 6246 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=20244644; PubMed=10784058;
Zhang Y.L., Ong C.T., Leung K.Y.;
"Molecular analysis of genetic differences between
avirulent strains of Aeromonas hydrophila isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hypothetical protein.
Aeromonas hydrophila.
Bacteria, Proteobacteria,
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STRAIN=PPD134/91,
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Zhang Y.L., Ong C.T., Leung K.Y.;
Molecular analysis of genetic differences between virulent and
avirulent strains of Aeromonas hydrophila isolated from diseased
fish.":
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STRAIN=PPD134/91;
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fish.":
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STRAIN=PPD134/91;
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SEQUENCE 56 AA; 6246 MW;
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STRAIN=PPD134/91;
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NCBI_TaxID=644;
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Q8GWL8;
01-MAR-2003
                                                                                                         "Major patterns of higher teleostean phylogenies: a new perspecti based on 100 complete mitochondrial DNA sequences.";

Mol. Phylogenet. Evol. 26:121-138(2003).

EMBL; APO04417; BAC23341.1; -.

GO; GO:0005739; C:mitochondrion; IEA.

GO; GO:0005739; C:mitochondrion; IEA.

GO; GO:0005137; F:NADH dehydrogenase (ubiquinone) activity; IEA.

GO; GO:0006120; P:mitochondrial electron transport, NADH to u. .

InterPro; IPR001133; Oxidored 4L.

InterPro; IPR003214; Oxidored 4L.

InterPro; IPR003214; Oxidored 4..
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SEQUENCE FROM N.A.
MEDLINE=22359432; PubMed=12470944;
MIYA M., Takeshima H., Endo H., Ishiguro N.B., Inoue Miya M., Takeshima H., Kawaguchi A., Mabuchi K., S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.

Seki M., Iida K., Satou M., Sakurai T., Akiyama K., Ishida Nakajima M., Enju A., Kamiya A., Narusaka M., Carninci P., Hayashizaki Y., Shinozaki K.;

Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.

EMBL; AKI18767; BAC43360.1; -.

Hypothetical protein.

SEQUENCE 60 AA; 6671 MW; 6D4ECA745A15FEF7 CRC64;
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Hypothetical protein At5g47830/MCA23_17.

Name=At5g47830/MCA23_17;
Arabidopsis thaliana (Mouse-ear cress).

Eukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosidieurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei; Acanthomorpha; Paracanthopterygii; Lophiformes; Ceratioidei; Ceratioidea; Caulophrynidae; Caulophryne.
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01-MAR-2003 (TrEMBLrel. 23,
01-OCT-2003 (TrEMBLrel. 25,
NADH dehydrogenase subunit '
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                                                           Mitochondrion.
SEQUENCE 98
                                                                                    Pfam; PF00420; Oxidored q2; 1. ProDom; PD000359; Oxidred4L; 1.
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01-MAR-2003
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Pred. No. 3.7e+02;
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                                                                                                                                                                                                                                                                                                                                                                                         Bao Q., Tian Y., Li W., Xu Z., Xuan Z., Hu S., Dong W. Chen Y., Xue Y., Xu Y., Lai X., Huang L., Dong X., Ma Yann H., Chen R., Wann J., Yu J., Yang H., "A complete sequence of the T. tengcongensis genome."; Genome Res. 12:689-700(2002).

EMBL; AE013057; AAM24168.1; -
Complete proteome; Hypothetical protein.
Complete proteome; Hypothetical protein.
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01-JUN-2002
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Bacteria; Firmicutes; Clostridia; Thermoanaerobacteriales;
Thermoanaerobacteriaceae; Thermoanaerobacter.
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STRAIN=MB4;
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	w	2	1	Result No.
72	72	72	73	73	74	74	74	75	77	77	89	89	89	89	89	89	89	89	69	89	89	89	89	89	Score
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Adg96722 Single ch	Abp45895 Human BLy	Abp46028 Human BLy	Adc27437 TMEFF2#10	Adg25805 Anti-CD30	Adj95626 Rat insul	Adj95639 Insulin-l	Adj95630 Rat insul	Aar41233 Monoclona	Aaw11917 Murine MA	Aaw11919 Humanised	Aab81991 Gangliosi	Aab81987 Gangliosi	Abull002 Modified	Aab81977 Gangliosi	Aab01627 Murine im	Aay28369 pKM641 HA	Aar53341 KM641 L c	Aar33256 Rat immun	Abull010 Modified	Abull012 Modified	Aab81989 Gangliosi	Aab81985 Gangliosi	Abull005 Modified	0	Description

Query Match
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Matches 17; Conserv

100.0%; Score 89; DB 4; 1 ilarity 100.0%; Pred. No. 4.1e-06; Conservative 0; Mismatches 0;

Length 17; Indels

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17;

Sequence 17 AA;

The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention

New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.

WPI; 2001-266143/27.

Claim 5; Page 141; 183pp; Japanese.

80.9 240 7 80.9 240 7 79.8 136 2 79.8 247 1 79.8 247 1 79.8 249 4 79.8 325 4 79.8 7 1119 2 78.7 1119 2 78.7 1119 2 77.5 7 1119 2	240 5 ABP45894 240 7 ADC996721 246 7 ADC996721 246 7 ADC996721 247 1 AAR06251 247 1 AAR00156 249 4 AAR20435 294 4 AAR20435 294 4 AAR20437 3294 4 AAR20439 3294 4 AAR20439 319 2 AAR82986 119 2 AAR82980 119 2 AAR82981 119 2 AAR82987 119 3 AAR82987 119 3 AAR82977 121 3 AAR95665 30 2 AAR95576	2	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26
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                                                                                                                                                                                                                                              30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
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                                                                                                                                                                                                 Shitara K,
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                      Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                   Ganglioside GD3
                                                                              03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
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                                                                                                      AAB81985
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                                                specific antibody related protein SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ganglioside GD3 specific antibody related protein SEQ ID NO:
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06-APR-2000; 2000JP-00105088.
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06-APR-2000; 2000JP-00105088.
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New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy

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                                                                                                                              The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
                                                                                                                                                                                                                                                                                            Druge containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
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                                                                                                      Sequence 119
                                                                                                                                                                                                                                                                  Claim 7; Page 112-113; 121pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                           WPI; 2003-067410/06
                                                                                                                                                                                                                                                                                                                                                                                                                                                29-MAR-2001; 2001JP-00097483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-MAR-2002; 2002WO-JP003170
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ganglioside GD3; anti-ganglioside GD3 antibody; tumour; melanoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified ganglioside GD3 antibody associated protein #5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABU11012;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           50
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                                            l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                     KYOWA HAKKO
YISSGGSGTYYSDSVKG
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                                                                                                                                                                                                                                                                                                                                                                                     Niwa R,
                                            100.0%; ilarity 100.0%; Conservative 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                     KOGYO KK
                                                                                                                                                                                                                                                                                                                                                                                        Kanazawa
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                                                        Score 89; DB 6;
Pred. No. 3.3e-05;
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                                                                         Length 119;
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RESULT 6
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RESULT 7

AAR33256

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Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                     The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ganglioside
                                                                                                                     25-MAR-2003
12-JUL-1993
                                                                                                                                                                  AAR33256;
                                                                                                                                                                                             AAR33256 standard;
                                                                                                                                                                                                                                                                                                                                                                                              Sequence 119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 8; Page 99; 121pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABU11010;
                                             humanised; chimeric; antibody; expression
                                                             Promoter; variable; region; rat; immunoglobulin; heavy; H; chain;
                                                                                         Rat immunoglobulin H chain varible region of pKM641HA3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-MAR-2001; 2001JP-00097483.
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                                                                                                                                                                                                                                                                                                                                  Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GD3; anti-ganglioside GD3 antibody; tumour; melanoma.
                                                                                                                   (revised)
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Rattus rattus

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RESULT 8
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Best Local S
Matches 17
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Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Humanised chimeric antibody prodn. against ganglioside GD3 -cancers, such as melanoma, neuroblastoma, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EP533199-A2
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                                           07-SEP-1992;
                                                                                     07-SEP-1993;
                                                                                                                                   17-MAR-1994.
                                                                                                                                                                             AU9346181-A
                                                                                                                                                                                                                                                                                                              Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                              expression
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      variable regions respectively. The DNA sequences encoding these proteins were used in the construction of humanised chimeric antibody expression vectors. In these humanised antibodies none of the amino acids of the nor-human animal Ab variable region have been changed. (Updated on 25-MAR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 6; Page 29-30; 63pp; English.
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                                                                                                                                                                                                                                           Peptide
                                                                                                                                                                                                                                                                                                                                                                                                     Monoclonal
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(KYOW)
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DB; AAQ33257.
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17; Conserv
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KYOWA
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                                                                                                                                                                                                                                                                                                                                                     antibody; Ab; ganglioside GM2; chimera; chimeric antibody;
vector; heavy; light; chain; hypervariable region; CDR;
egion; hybridoma; Ig; immunoglobulin; promoter; enhancer.
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HAKKO KOGYO KK
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11. .130
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Pred. No. 3.6
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RESULT 9
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Best Local :
                    This immunoglobulin region was isolated from pKM641HA3. This sequence no methionine initiation codon and the leader sequence was partly lacking. The chimeric human antibodies are useful in the treatment of cancer, especially that which is of neural ectodermal origin. In contr to prior art constructs based on mouse monoclonal antibodies, the chimeric human antibodies do not cause anti-mouse immunoglobulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 2 describes the construction of the vector pChi641HA1 for chimeric human antibody H chain expression. mRNA from mouse anti-GD3 monoclonal Ab KW641-producing cells was isolated and KW641 H and L chain cDNAs isolated. The base sequences of the Ig variable regions in KW641 H chain cDNA (pKW641HA3) and KW641 L chain cDNA (pKW641LA2) are given in AAQ45438-39. A KW641-derived chimeric human Ab H chain expression vector was constructed by joining the H chain variable region gene from pKW641HA3 to a vector for chimeric human Ab H chain expression using the synthetic DNAs given in AAQ63439 and AAQ63440
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                                                                                                                                                                                                                                                                                             WPI; 1999-468416/39.
N-PSDB; AAX99482.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pKM641 HA3 immunoglobulin heavy chain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY28369;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY28369 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 2; Page 116-117; 191pp; English.
                                                                                                                                                                                                Example 1; Col 99-101; 188pp; English.
                                                                                                                                                                                                                                                Chimeric human antibody
                                                                                                                                                                                                                                                                                                                                                                       Nakamura K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US5939532-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                       (KYOW ) KYOWA HAKKO KOGYO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  light chain; amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1994-126857/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAQ45439.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YISSGGSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nucleotide; genomic; hypervariable region; chimeric;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antibody specific effect on cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                       Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Koike M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93US-00116778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95US-00483528.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shitara
                                                                                                                                                                                                                                                                                                                                                                       Kuwana
                                                                                                                                                                                                                                                expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   76
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 89; DB 2; -
Pred. No. 3.6e-05;
                                                                                                                                                                                                                                                                                                                                                                       ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ganglioside GM
h as melanoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                       Hasegawa M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hanai N,
                                                                                                                                                                                                                                                  vectors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GM2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Кимапа Ү,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          M2 - used for preuroblastoma
                                                                                                                                                                                                                                                                                                                                                                            Koike
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                         Σ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hasegawa
                                                                                                                                                                                                                                                                                                                                                                            Shitara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       producing a
and glioma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3
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                                                                              contrast
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production.

human

antibodies

immunoglobulin prolonged half-life

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RESULT 10

AABO1627

ID AABO1627

ID AABO1627

ID AABO1627

AC AABO1

AC MURIN

AC MURIN

AC MURIN

AC MURIN

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                                            Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                   The present sequence is a murine immunoglobulin heavy chain variable region from plasmid KM-641. The coding sequence was used in the creation of an expression vector, along with the sequence for a human antibody, to produce humanised chimaeric antibodies, which can be used to treat cancer. Humanised chimaeric antibodies are more effective than mouse antibodies as they do not provoke a reaction in the human and side effects, such as the formation of anti-mouse immunoglobulin antibody and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a reduced frequency of antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New humanized chimera antibody KM-871 useful for treating cancer, comprises variable region of mouse monoclonal antibody, reactive with ganglioside and human antibody constant region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB01627 standard;
                                                                                                                                                   Sequence 130 AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 14; Page 27-28; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AAA51003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-SEP-1991;
18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EP1013761-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mouse; immunoglobulin; H chain; heavy chain; variable region; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Murine immunoglobulin heavy chain variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB01627;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 130 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2000-402204/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        humanised antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (KYOW ) KYOWA HAKKO KOGYO KK.
                                            / Match 100.0%;
Local Similarity 100.0%;
les 17; Conservative 0;
                                                                                                                                                                                                rapid half-life of the immunoglobuling,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 YISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
YISSGSSTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YISSGGSGTYYSDSVKG 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             91JP-00238375.
92EP-00116026.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99EP-00124345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11. .130
/label= mature_immunoglobulin_heavy_chain_variable region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label=_signal_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hasegawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            adverse effects when compared to mouse monoclonal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                            Score 89; DB
Pred. No. 3.6
0; Mismatches
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Pred. No. 3.6
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Miyaji H,
                                               3.6e-05;
hes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2; 1
                                                                                              DB 3;
                                                                                                                                                                                                     ٥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kuwana Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
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                                                                                              Length 130;
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                                               Gaps
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RESULT 11
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RESULT 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                     Mus musculus.
                                                                                                    Ganglioside GD3; anti-ganglioside GD3 antibody; tumour; melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 138 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ganglioside
                                                                                                                                                  Modified ganglioside GD3
                                                                                                                                                                                                       04-FEB-2003
                                                                                                                                                                                                                                                         ABU11002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-266143/27.
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06-APR-2000; 2000JP-00105088.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-JUL-2001
                                                                                                                                                                                                                                                                                                         ABU11002 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 1; Page 138-139; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (KYOW ) KYOWA HAKKO KOGYO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-SEP-2000; 2000WO-JP006774.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 YISSGGSGTYYSDSVKG 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2003-067410/06.
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                                                                                                                                WPI; 2001-266143/27.
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                                                                                                                                                                                                                                      The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therap of e.g. tumors, with low antigenicity, little side effects but potent
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                                                                                                                                                                                                                                                                                                                                                                                     Claim 39; Page 175-179; 183pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                    activity in cancer.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (KYOW ) KYOWA HAKKO KOGYO KK.
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06-APR-2000; 2000JP-00105088
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                                                                                               Gaps
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RESULT 15
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Chimeric.
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                      The heavy chain variable region (AAW11919) and light chain variable region (AAW11920) of humanised anti-human interleukin-1 beta (IL-1 beta) murine monoclomal antibody (MAb) SK48-E26 comprise the complementarity determining regions from MAb SK48-E26 (see also AAW11917-18) grafted int
                                                                                                                                Claim 39;
                                                                                                                                                                           disorders
                                                                                                                                                                                        Recombinant and humanised chimeric antibodies against human interleukin-letta - for preventing and treating interleukin-mediated inflammatory
                                                                                                                                                                                                                                                         WPI; 1995-066868/09.
N-PSDB; AAT51438.
                                                                                                                                                                                                                                                                                                                                                                                                           09-JUL-1993;
04-MAR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-JUL-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Humanised MAb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-OCT-2003
24-JUN-1997
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                                                                                                                                                                                                                                                                                                                                                                 (SMIK ) SMITHKLINE BEECHAM CORP
                                                                                                                                                                                                                                                                                                                     PR,
    frameworks.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antibody; antil
inflammation;
                                                                                                                          Page 40-41; 62pp; English.
                                                                                                                                                                                                                                                                                                                         Gross MS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (revised)
(first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                         93US-00090534.
94US-00206190.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94WO-US007659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= CDR3
/note= "complementarity determining region 3 (Claim 10,
page 48)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "complementarity determining region 1 (Claim 10,
page 48)"
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/note= "framework
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ocation/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       label= FR3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note= "complementarity determining region 2 (Claim 10, bage 48)"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               abel=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             abel= CDR2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .abel= FR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; IL-1 beta; recombinant antibody; humanised antibody; antibody engineering; monoclonal antibody; MAb;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein; 119 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .108
    humanised
                                                                                                                                                                                                                                                                                                                       Jonak ZL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "framework region
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  antibody can be produced in e.g. COS
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Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                         chimeric a
SK48-E26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cells transfected with vectors carrying humanised heavy and light chain nucleic acids (AAT51437-39) for use in the treatment and prevention of IL-1 mediated inflammatory disorders. (Updated on 16-OCT-2003 to standardise OS field)
                           09-JUL-1993;
04-MAR-1994;
                                                                                                                                                                           Region
                                                                                                                                                                                                                                       Region
                                                                                                                                                                                                                                                                                                                              Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 119 AA;
                                                     07-JUL-1994;
                                                                      19-JAN-1995
                                                                                                              Region
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                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                            Murine MAb
                                                                                                                                                                                                                                                                                                                                                                                                                                             24-JUN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW11917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW11917 standard;
                                                                                                                                                                                                                                                                                                                                                                                        Interleukin-1 beta; IL-1 beta; recombinant antibody; humanised antibody;
chimeric antibody; antibody engineering; monoclonal antibody; MAb;
SK48-E26; inflammation; therapy.
                                                                                      WO9501997-A1
                                                                                                                                                                                                                                                                                                                                             Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                            SK48-E26 heavy chain.
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                                                                                                                                                                                                                                                                                                                                                                                                                                             (first
                          93US-00090534.
94US-00206190.
                                                     94WO-US007659
                                                                                                                                                                                                                                                                   page
55. .
                                                                                                                                                /label= CDR3
/note= "complementarity determining region 3 (Claim 10,
page 48) "
                                                                                                                                                                            118.
                                                                                                                                                                                                            /label= CDR2
/note= "complementarity determining region 2
page 48)"
                                                                                                                       /label= FR4
/note= "framework region
                                                                                                                                                                                   /label= FR3
/note= "framework
                                                                                                                                                                                                                                                note= "framework
                                                                                                                                                                                                                                                                           /note= "complementarity determining region 1 (Claim 10, page 48)"
                                                                                                                                                                                                                                                                                                                                     /label= Sig_peptide
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label= Co
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                                                                                                      Constant_region
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(SMIK ) SMITHKLINE BEECHAM CORP

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ARASULT 17
AAR41233
ID ARA41233
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XX AAR41
XX AAR41
XX MONOC
XX MUS II
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XX MONOC
XX MUS II
PN 22-SE
XX AR41
PN EP561
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Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Amino acid sequences of the heavy chain (AAWI1917) and light chain (AAWI1918) of anti-human interleukin-leta (IL-1 beta) murine monoclonal antibody (MAb) SK48-E26 were deduced form nucleic acids (AAT51436-37) derived from hybridoma SK48-E26. The heavy and light chains, esp. the complementarity determining region sequences, can be utilised in novel recombinant chimeric and humanised antibodies (see also AAWI1919-20) useful for the treatment and prevention of IL-1 mediated inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Recombinant and humanised chimeric antibodies against human interleukin-1-beta - for preventing and treating interleukin-mediated inflammatory
                                           The monoclonal antibody BW2121 can be used for the detection of melanomas and other tumours expressing GD3 and GQ1b. The monoclonal antibody may also be used as part of a pharmaceutical composition or diagnostic kit. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                   Hybridoma 2121 (dsm acc 2036) and monoclonal antibody BW 2121 specifically bind to gangliosides GD3 and GQ1B, useful for prodiagnosis of melanoma or tumours expressing GD3 and GQ1B.
                                                                                                                                                                                                                                                                                                                            N-PSDB;
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                                                                                                                                                                          Claim
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                                                                                                                                                                                                                                                                                                                                                                                                 7,
                                                                                                                                                                                                                                                                                                                         AAQ48765.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 BEHRINGWERKE
                                                                                                                                                                        Page 5; 9pp; German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YISSGGGTYYPDTVKG
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                                                                                                                                                                                                                                                                                                                                                                                              Dippold
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Sequence 118

RESULT 19
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AC ADJ95
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DT 06-MA
XX
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ADJ95639 standard;

protein; 118

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Insulin-like 06-MAY-2004 ADJ95639;

growth (first

factor

(IGF)-related

protein

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RESULT 18
ADJ95630
ID ADJ95630
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Matches 14
                                                                                                                                                                                                                                                 The invention comprises antibodies and antibody fragments which bind to and inhibit the function of human insulin-like growth factor (IGF-I and/or IGF-II). The antibodies and antibody fragments of the invention are useful for the treatment, prevention, and diagnosis of diabetes, rheumatoid arthritis and cancer. The present amino acid sequence represents a rat insulin-like growth factor-related peptide of the
                                                                                                                                                                                  Sequence 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Shitara K,
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                                                                                                                                                                                                                                                                                                                                                                                                                     Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antibodies and antibody fragments recognising factor for treatment and diagnosis of cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-APR-2002; 2002JP-00129046
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                                                                                                                                                                                                                                                                                                                                                                                                                   3; SEQ ID NO 6; 115pp; Japanese.
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14; Conservative
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                                                                                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KOGYO KK
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RESULT 20
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Matches 14; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 118
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                                           Shitara K,
                                                                                                                                                                                                                                                                                                                        Rattus norvegicus.
                                                                                                                                                                                                                                                                                                                                                                     rheumatoid
                                                                                                                                                                                                                                                                                                                                                                                                                                        Rat insulin-like growth factor (IGF)-related protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-MAY-2004
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actor for treatment and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2003-854482/79
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                                                                                                                                      30-APR-2002;
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                                                                                                                                                                                                                                                                                                                                                                     insulin-like growth factor; IGF-I; IGF-II; diabetes;
rheumatoid arthritis; cancer; rat.
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                                                                                        (КУОМ ) КУОМА НАККО КОБУО КК.
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                                             Nakamura
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82.4%;
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                                             Furuya
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Pred. No. 0.00
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                                             Ohki
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Best Local S
Matches 14
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Kreitman R,
The present invention describes an isolated antibody that binds specifically to a stalk of CD30 of a cell, or to an epitope destroyed upon cleavage of soluble CD30 (8CD30) from intact CD30. Also described: (1) a composition comprising the antibody conjugated or fused to a therapeutic part; (2) a nucleic acid encoding an antibody that binds specifically to a stalk of CD30 of a cell, or to an epitope destroyed upon cleavage of 8CD30 from intact CD30; (3) an expression vector comprising the nucleic acid operably linked to a promoter; (4) inhibiting growth of a CD30+ cancer cell; (5) detecting the presence of a CD30+ cein a biological sample; (6) a host cell expressing the isolated nucleic
                                                                                                                                                                                                                                                     WPI;
                                                                                                                                                                                         New antibody that binds specifically to a stalk of CD30 of a celan epitope destroyed upon cleavage of soluble CD30 (sCD30) from CD30, useful for inhibiting the growth of a CD30+ cancer cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention comprises antibodies and antibody fragments which bind to and inhibit the function of human insulin-like growth factor (IGF-I and/or IGF-II). The antibodies and antibody fragments of the invention are useful for the treatment, prevention, and diagnosis of diabetes, rheumatoid arthritis and cancer. The present amino acid sequence represents a rat insulin-like growth factor-related protein of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ADJ95625
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16-SEP-2002; 2002US-0411032P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Antibodies and antibody fragments recognising human insulin-like growth factor for treatment and diagnosis of cancer, diabetes and rheumatoid
                                                                                                                                                               Example 1; SEQ ID NO 5; 102pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antibody;
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14; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CD30; anti-CD30 antibody; cytostatic;
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Sinha
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Best Local (
                inhibits binding of TMEFF2#19 to TMEFF2. Also described: (1) a pharmaceutical composition comprising the antibody and a carrier; (2) detecting a prostate cancer cell in a biological sample from a patient by contacting the biological sample with the antibody; (3) inhibiting proliferation of a prostate cancer-associated cell by contacting the cell with the antibody; and (4) treating prostate cancer with an antibody to TMEFF2. (I) has cytostatic activity and can be used in vaccines. The antibody, composition and method are useful for treating prostate cancer, e.g. primary prostate cancer, androgen independent prostate cancer, prostate cancer that has been treated with neoadjuvant therapy, or prostate cancer that has been treated with neoadjuvant therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 acid encoding the antibody having variable heavy and variable light chains; and (7) a kit for detecting the presence of a CD30+ Cancer cell in a biological sample comprising a container and an anti-CD30 antibody has cycostatic activity, and can be used in gene therapy. The anti-CD30 antibody that binds specifically to a stalk of CD30 of a cell, or to an epitope destroyed upon cleavage of sCD30 from intact CD30 is useful for the manufacture of a medicament for inhibiting the growth of a CD30+ cancer cell. The present sequence is used in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New antibody that competitively inhibits binding of TMEFF219 to TMEFF2, useful for treating prostate cancer, e.g. primary, metastatic, locally advanced, or androgen independent prostate cancer.
                                                                                                                                                                                                                                                                                                                                          The present invention describes an antibody (I) that competitively inhibits binding of TMEFF2#19 to TMEFF2. Also described: (1) a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-MAR-2002; 2002US-0362837P.
27-DEC-2002; 2002US-0436812P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antibody; TMEFF2#19;
cytostatic; vaccine;
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93.8%;
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primary prostate cancer; metastatic prostate cancer;
state cancer; androgen independent prostate cancer.
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                             and activity such as cancer, immune, and autoimmune disorders and diseases, e.g. systemic lupus erythematosus, rheumatoid arthritis, immunodeficiency (e.g. common variable immunodeficiency (CVID) and acquired immunodeficiency syndrome (AIDS)). ABP43990-ABP47228 represent the antibodies and fragments of the antibodies described in the method of the antibodies described.
                                                                                                                                                                  cytostatic, immunosuppressive, immunostimulant, immunomodulatory, antirheumatic and antiAIDS activity and can be used in vaccines to inhibit the expression and activity of BLyS. The antibodies bind to BLyS and so may be used to detect and quantitate the presence of BLyS in biological samples and may be used in this way to diagnose disease associated with aberrant expression of BLyS. They may also be administered to treat diseases associated with aberrant BLyS expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-JUN-2000; 2000US-0212210P:
17-CCT-2000; 2000US-0240816P:
16-MAR-2001; 2001US-0276248P:
21-MAR-2001; 2001US-0277379P:
25-MAY-2001; 2001US-0293499P:
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                                                                                                                                                                                                                                                                                                                                                                      This invention describes novel antibodies that immunospecifically bind to be a supplied to the Lymphocyte Stimulator (BLyS) polypeptides. BLyS is a member of the tumour necrosis factor (TMF) super family and induces B cell proliferation and differentiation. The antibodies of the invention have
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             immunosuppressive; immunostimulant; immunomodulatory; antirheumatic; antiAlDS; vaccine; cancer; immune; autoimmune disorder; immunodeficiency; systemic lupus erythematosus; rheumatoid arthritis; CVID; AIDS; common variable immunodeficiency; acquired immunodeficiency syndrome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BLys; B lymphocyte stimulator; TNF superfamily; human; cytostatic; tumour necrosis factor; B cell proliferation; B cell differentiation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Antibodies against B Lymphocyte Stimulating polypeptides, diagnosis and treatment of cancers and immune disorders.
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                                                                                   This invention describes novel antibodies that immunospecifically bind to B Lymphocyte Stimulator (BLyS) polypeptides. BLyS is a member of the tumour necrosis factor (TNF) super family and induces B cell proliferation and differentiation. The antibodies of the invention have cytostatic, immunosuppressive, immunostimulant, immunomodulatory, antirheumatic and antiAIDS activity and can be used in vaccines to inhibit the expression and activity of BLyS. The antibodies bind to BLyS and so may be used to detect and quantitate the presence of BLyS in biological samples and may be used in this way to diagnose disease associated with aberrant expression of BLyS. They may also be administered to treat diseases associated with aberrant BLyS expression and activity such as cancer, immune, and autoimmune disorders and diseases a concert, immune, and autoimmune disorders and diseases a concert, immune, and autoimmune disorders and diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLys; B lymphocyte stimulator; TNF superfamily; human; cytostatic; tumour necrosis factor; B cell proliferation; B cell differentiation; immunosuppressive; immunostimulant; immunomodulatory; antirheumatic; antiAIDS; vaccine; cancer; immune; autoimmune disorder; immunodeficien systemic lupus erythematosus; rheumatoid arthritis; CVID; AIDS; common variable immunodeficiency; acquired immunodeficiency syndrome.
                acquired immunodeficiency syndrome (AIDS). ABP43990-ABP4 the antibodies and fragments of the antibodies described the invention
                                                           diseases, e.g. systemic lupus erythematosus, rheumatoid arthritis, immunodeficiency (e.g. common variable immunodeficiency (CVID) and
                                                                                                                                                                                                                                                                                                                                  Antibodies against B Lymphocyte Stimulating polypeptides, diagnosis and treatment of cancers and immune disorders.
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Matches 14
                                                                                                                                                                                                                                                                                                                                                      This invention relates to novel antibodies that immunospecifically bind to B lymphocyte stimulator (BLyS). The BLyS gene has been mapped to chromosome 13g34 and encodes a protein that is a member of the tumour necrosis factor superfamily and induces both in vivo and in vitro B cell proliferation and differentiation. Specifically, it refers to single chain antibody molecules (ecFvs) derived, preferably, from the variable heavy CDR3 region that immunospecifically bind to a polypeptide, or fragment thereof, of either human, murine, rat or monkey BLyS. The present invention refers to the use of such antibodies in various methods for the detection, diagnosis and prognosis of diseases related to the aberrant expression or inappropriate function of BLyS or its receptor. As such, these compositions are useful for identifying immune disorders including myasthenia gravis and multiple sclerosis, inflammatory as the and explicate the disorders such as the composition of architis, infectious diseases such a source of according to the section of the sect
                                                                        as AIDS and proliferative disorders including leukaemia, carcinoma and lymphoma. Accordingly, they can be described as exhibiting various activities such as antirheumatic, antiarthritic, neuroprotective, antiinflammatory, antiasthmatic, antiallergic and cytostatic. This polypeptide sequence is a single chain antibody that binds BLyS of the invention. NOTE: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel antibody that immunospecifically binds to a B lymphocyte stimulator (BLys), useful for detecting and treating diseases or disorders e.g. rheumatoid arthritis, asthma and leukemia.
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19-DEC-2001; 2001US-0340817P.
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                   This invention relates to novel antibodies that immunospecifically bind CC to Blymphocyte stimulator (BLyS). The BLyS gene has been mapped to chromosome 13g34 and encodes a protein that is a member of the tumour cc chromosome 13g34 and encodes a protein that is a member of the tumour cc necrosis factor superfamily and induces both in vivo and in vitro B cell proliferation and differentiation. Specifically, it refers to single cc chain antibody molecules (scFvs) derived, preferably, from the variable heavy CDR3 region that immunospecifically bind to a polypeptide, or cf fragment thereof, of either human, murine, rat or monkey BLyS. The CC present invention refers to the use of such antibodies in various methods cf for the detection, diagnosis and prognosis of diseases related to the caberrant expression or inappropriate function of BLyS or its receptor. As such, these compositions are useful for identifying immune disorders concluding myasthenia gravis and multiple sclerosis, inflammatory concluding myasthenia gravis and multiple sclerosis, inflammatory concluding such as antirheumatoid arthritis, infectious diseases such as AIDS and proliferative disorders including leukaemia, carcinoma and lymphoma. Accordingly, they can be described as exhibiting various activities such as antirheumatic, antiarthritic, neuroprotective, contiinflammatory, antiasthmatic, antiarthritic, neuroprotective, antianthritic, neuroprotective, antianthritic, neuroprotective, antianthritic, neuroprotective, seguence is a single chain antibody that binds BLyS of the circular form wife at the was obtained in electronic format converted directely from wife at the vas obtained in electronic format converted and c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel antibody that immunospecifically binds to a B lymphocyte stimulator (BLys), useful for detecting and treating diseases or disorders e.g. rheumatoid arthritis, asthma and leukemia.
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19-DEC-2001; 2001US-0340817P
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Pred. No.
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Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                                                                                           This invention describes novel antibodies that immunospecifically bind to B Lymphocyte Stimulator (BLyS) polypeptides. BLyS is a member of the tumour necrosis factor (TNF) super family and induces B cell proliferation and differentiation. The antibodies of the invention have cytostatic, immunosuppressive, immunostimulant, immunomodulatory, antirheumatic and antiAIDS activity and can be used in vaccines to inhibit the expression and activity and can be used in vaccines bind to BLyS and so may be used to detect and quantitate the presence of BLyS in biological samples and may be used in this way to diagnose disease associated with aberrant expression of BLyS. They may also be associated with aberrant expression of BLyS. They may also be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 237 AA;
                                                                                                   administered to treat diseases associated with aberrant BLyS expression and activity such as cancer, immune, and autoimmune disorders and diseases, e.g. systemic lupus exprthematosay, rheumatoid arthritis, immunodeficiency (e.g. common variable immunodeficiency (CVID) and acquired immunodeficiency syndrome (AIDS)). ABP43990-ABP47228 represent the antibodies and fragments of the antibodies described in the method of the antibodies described in the method of the antibodies.
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17-CCT-2000; 2000US-0240816F.
16-MAR-2001; 2001US-0276248F.
21-MAR-2001; 2001US-0277379P.
25-MAY-2001; 2001US-0293499P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antibodies against B Lymphocyte Stimulating polypeptides, useful for the diagnosis and treatment of cancers and immune disorders.
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82.4%;
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Pred. No. 0
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0.021;
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RESULT 28
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                                                 CC necrosis factor superfamily and induces both in vivo and in vitro B cell CC proliferation and differentiation. Specifically, it refers to single CC chain antibody molecules (scFvs) derived, preferably, from the variable CC chain antibody molecules (scFvs) derived, preferably, from the variable CC chavy CDR3 region that immunospecifically bind to a polypeptide, or CC gregent invention refers to the use of such antibodies in various methods CC for the detection, diagnosis and prognosis of diseases related to the CC aberrant expression or inappropriate function of BLyS or its receptor. As CC cucluding myasthenia gravis and multiple sclerosis, inflammatory CC disorders e.g. asthma and rheumatoid arthritis, infectious diseases such CC as AIDS and proliferative disorders including leukaemia, carcinoma and CC lymphoma. Accordingly, they can be described as exhibiting various CC antiinflammatory, antiasthmatic, antiathritic, neuroprotective, antiathrities such as antixheumatic, antiathritic, neuroprotective, CC polypeptide sequence is a single chan antibody that binds BLyS of the cinvention. NOTE: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format CC directely from WIPO at ftp. wipo.int/pub/published pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This invention relates to novel antibodies that immunospecifically bind to B lymphocyte stimulator (BLyS). The BLyS gene has been mapped to chromosome 13q34 and encodes a protein that is a member of the tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antibody; B lymphocyte stimulator; BLyS; tumour necrosis factor; B cell proliferation; differentiation; scFv; myasthenia gravis; multiple sclerosis; asthma; rheumacoid arthritis; AlDS; leukaemia; carcinoma; lymphoma; antirheumatic; antiarthritic; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; SEQ ID NO 1905; 394pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel antibody that immunospecifically binds to a B lymphocyte stimulator (BLys), useful for detecting and treating diseases or disorders e.g. rheumatoid arthritis, asthma and leukemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2003-505530/47.
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19-DEC-2001; 2001US-0340817P.
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RESULT 30
AAR06251
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Best Local S
Matches 14
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Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to a novel antibody that specifically binds to a GMAD polypeptide comprising a first amino acid sequence that is at least 95% identical to a second amino acid sequence of a VH CDR (complementarity determining region) or VL CDR of an scFv (single chain antibody molecule). The antibody of the invention demonstrates antidiabetic activity and may be useful for diagnosing, monitoring, treating, preventing or ameliorating type II diabetes. The current sequence is that of the human scFv protein of the invention.
                                                      AAR06251;
                                                                                                        AAR06251 standard; protein; 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 246 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 2; SEQ ID NO 45; 410pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New antibody that specifically binds to GMAD polypeptide, useful for diagnosing, monitoring, treating, preventing or ameliorating type II
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Pred. No. 0.02
1; Mismatches
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0.021;
                                                                                                                                                                                                                                                                                                                                                                          DB 7;
0.022;
                                                                                                                                                                                                                                                                                                                                               2
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                                                                                                                                                                                                                                                                                                                                                                                                Length 246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 240;
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                                                                                                                                                                                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
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10-DEC-1990

(first entry)

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAbs comprising mouse CH and CL constant regions whith human variable regions may be used to create mouse/human hybrid MAbs, which have a longer serum half-life. Method can be used to produce Abs against interleukin-2 receptor and tumour necrosis factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Expression vectors for producing chimeric monoclonal antibodies - which express human constant region and non-human variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1990-232892/31.
N-PSDB; AAQ05555.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-JAN-1989;
04-DEC-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-AUG-1990
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biosynthetic antibody binding site; framework region; assay; imaging, multifunctional protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31-OCT-2002
14-NOV-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 136 AA;
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                                               Huston J,
                                                                                                                                                                                                                                   21-MAY-1987;
                                                                                                                                                                                                                                                                                                                         19-MAY-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                        01-DEC-1988.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO8809344-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biosynthetic antibody binding site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAP80156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAP80156 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page ?; -pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zerler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Interleukin-2 receptor; IL-2; tumour necrosis factor; TNF; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MOLE-) MOLECULAR THERAPEU.
                                                                                                                                         (CREA-) CREATIVE BIOMOLECULES INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13;
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                                               Oppermann H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               79.8%; ilarity 76.5%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (revised)
(first entry)
                                                                                                                                                                                                                              87US-00052800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      89US-00301216.
89US-00441702.
                                                                                                                                                                                                                                                                                                                         88WO-US001737.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     247 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ۲
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Pred. No. 0.016;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    54
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
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The biosynthetic antibody binding site forms part of a recombinant CC multifunctional protein which also comprises an effector protein, an AA CC sequence capable of sequestering an ion, or a sequence capable of binding CC to a solid support. The BABS comprises framework regions in both VH and CLH and CDR1 and CDR3 in VH, and CDR1, CDR2 and CDR3 in VL from an anti-CC monoclonal antibody. CDR2 in VH is a CDR2 consensus sequence found in CC receptor, binding site, growth factor, cytokine or antimetabolite. The CC receptor, binding site, growth factor, cytokine or antimetabolite. The CC requence able to bind to a solid support is streptavidin or a protein RC affinity purificn, biocatallysts, drug targetting, imaging and CC affinity purificn, biocatallysts, drug targetting, imaging and coffers fewer cleavage sites to circulating proteolytic enzymes and have cimproved stability. They reach target organs rapidly and are cleared CC improved stability. They also have reduced immunogenicity. (Updated on CC 31-OCT-2002 to add missing OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Recombinant multifunctional protein - having an antibody binding site and a sequence for biological activity, ion sequestering or binding to a solid support.
Sequence 247 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page ?; 15pp; English.
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Matches
                                     Query Match
Best Local
53
                              14;
         2 ISSGGSGTYYSDSVKG 17
                                      Similarity
ISSGGSNTYYPDSVKG
                               Conservative
                                      79.8%;
87.5%;
89
                              0;
                                      Score 71;
Pred. No.
                               Mismatches
                                       0.03;
                                              DB 1;
                               2;
                                              Length 247;
                               Indels
                               0,
                               Gaps
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RESULT 32
AAB20436
ID AAB20
XX AAB20
XX AAB20
XX Factc
XW Factc
XW Factc
XW Factc
XW Factc
XW haemm
OS Mus n
OS Synt!
OS Synt!
FT Regit
FT Prot:
FT Pept:
FT Pept:
FT Pit
FT Pit
FT Pit
FT Regit
                                                                                                                                                                                                                                                                             Factor IX; FIX; Factor IXa; FIXa; scFv; antibody; procoagulant; Factor VIII cofactor; blood coagulation disorder; haemophilia A haemorrhagic diathesis; haemostatic; amidolytic; therapy; mouse
                                      Region
                                                              Misc-difference
                                                                                      Misc-difference
                                                                                                                                     Peptide
                                                                                                                                                              Region
                                                                                                                                                                                      Protein
                                                                                                                                                                                                                                         Mus musculus.
Synthetic.
                                                                                                                                                                                                                                                                                                                                Anti-FIX/FIXa antibody 198/A1 scFv.
                                                                                                                                                                                                                                                                                                                                                         21-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                         AAB20436 standard; protein; 249
                                                                                                                                                                                                                             Chimeric
                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                              224
                                                                                                                                                                                                    Location/Qualifiers
                           /label= CDR3
                                                                                                                                         123.
                                                                                                                                                  99. .111
/label= CDR3
                                                                                                                                                                           /label= VH
                                                                                                   'label= VL
                                                                                                                           23. .136
/label= Linker
                                                   note= "encoded
                                                                         note= "encoded
                                                                                                                .249
                                       . 238
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                                                                         by ACN"
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WO200119992-A2

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Best Local :
                                                                                                                              Mus musculus.
Synthetic.
Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence is that of a single chain Fv (scFv) derivative of antibody 198/A1, comprising the heavy (VH) and light (VI) chain variable regions of 198/A1 joined by an artificial, flexible linker peptide. The scFv was obtained by PCR amplification of cDNAs for 199/A1 VH and VL regions and cloning in vector pDAP2. 198/A1 is an example of anti-human Factor IX (FIX)/activated Factor IX (FIXa) antibodies of the invention. Anti-FIX/FIXa and their derivatives, including scFv and CDR3 fragments, have Factor VIIIa (FVIIIa) cofactor activity or FIXa activating activity. Administration leads to an increase in the procoagulant activity of FIXa, even in the presence of FVIIIa inhibitors. This allows for rapid blood coagulation even in the absence of FVIII or FVIIIa, and in the case of FVIII inhibitor patients. The antibodies and derivatives are used in a claimed pharmaceutical composition for treating patients with blood coagulation disorders, especially haemophilia A and haemorrhagic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New factor IX/factor IXa antibodies and their derivatives useful for increasing amidolytic activity of factor IXa, and for treating blood coagulation disorders such as hemophilia A and hemorrhagic diathesis.
                                                                                                                                                                                     Factor IX; FIX; Factor IXa; FIXa; scFv; antibody; procoagulant; Factor VIII cofactor; blood coagulation disorder; haemophilia A; haemorrhagic diathesis; haemostatic; amidolytic; therapy; mouse.
                                                                                                                                                                                                                                                                            21-JUN-2001
                                                                                                                                                                                                                                                                                                                                    AAB20435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 249 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-290358/30.
N-PSDB; AAF30726.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scheiflinger F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-MAR-2001
   Protein
                            Peptide
                                                       Region
                                                                                                   Кeу
                                                                                                                                                                                                                                                Anti-FIX/FIXa antibody 198/AB2 scFv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (BAXT ) BAXTER AG
                                                                                      Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                             51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14;
                                                                                                                                                                                                                                                                                                                                                                                                                                        N
                                                                                                                                                                                                                                                                                                                                                                                                                            ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                   standard; protein; 249
                                                                                                                                                                                                                                                                                                                                                                                                             ISSGGSSTYYPDSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                           (first entry)
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123. .136
/label= Linker
137. .249
                                        98. .102
/label= CDR3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kerschbaumer R,
                                                                      1. .122
/label= VH
                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 79.8%;
87.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 71;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dorner F;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
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RESULT 34
AAB20442
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Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence is that of a single chain Fv (scFv) derivative of antibody 198/AB2, comprising the heavy (VH) and light (VL) chain variable regions of 198/AB2 joined by an artificial, flexible linker peptide. The scFv was obtained by PCR amplification of cDNAs for 198/AB2 VH and VL regions and cloning in vector pDAP2. 198/AB2 is an example of anti-human Factor IX (FIXA) antibodies of the invention. Anti-FIX/FIX and their derivatives, including scFv and CDR3 fragments, have Factor VIIIa (FVIIIa) cofactor activity or FIXa activating activity. Administration leads to an increase in the procoagulant activity of FIXa, even in the presence of FVIIIa inhibitors. This allows for rapid blood coagulation even in the absence of FVIII or FVIIIa, and in the case of FVIII pharmaceutical composition for treating patients with blood coagulation disorders, especially haemophilia A and haemorrhagic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New factor IX/factor IXa antibodies and their derivatives useful for increasing amidolytic activity of factor IXa, and for treating blood coagulation disorders such as hemophilia A and hemorrhagic diathesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scheiflinger F, Kerschbaumer R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                               Factor IX; FIX; Factor IXa; FIXa; scFv; antibody; procoagulant; Factor VIII cofactor; blood coagulation disorder; haemophilia A; haemorrhagic diathesis; haemostatic; amidolytic; therapy; mouse;
                                                                                                                                                                                                                                  AAB20442
                                                                                                                                                                                                                                                            AAB20442 standard; protein; 294 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 12; Fig 16; 138pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-SEP-2000; 2000WO-EP008936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22-MAR-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200119992-A2
                                                                                                                                                                         Anti-FIX/FIXa
                                                                                                                                                                                                      21-JUN-2001
                                           Chimeric.
                                                         Synthetic.
Escherichia
                                                                                      Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (BAXT ) BAXTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001-290358/30.
DB; AAF30725.
                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                 N
                                                                                                                                                                                                                                                                                                                                      ISSGGSSTYYPDSVKG
                                                                                                                                                                                                                                                                                                                                                                ISSGGSGTYYSDSVKG 17
                                                         coli.
                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA,
                                                                                                                                                                                                    (first entry)
                                                                                                                                                                         antibody 198/B1-myc-tag fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                న
స
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label= VL
230. .238
/label= CDR3
Location/Qualifiers
1. .22
                                                                                                                                                                                                                                                                                                                                                                                                          79.8%;
87.5%;
                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                          Score 71;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Falkner F,
                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                            DB 4;
0.031;
                                                                                                                                                                                                                                                                                                                                                                                             <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dorner
                                                                                                                                                                                                                                                                                                                                                                                                                        Length 249;
                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                  myc-tag.
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Key

Peptide

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                                                                                                                                  The present sequence is that of a fusion protein comprising: a PelB C leader; a single chain Fv (scFv) derivative of antibody 198/Bl comprising the heavy (VH) and light (VL) chain variable regions of 198/Bl joined by an artificial, flexible linker peptide; a spacer; a Myc-tag peptide; a spacer; and a C-terminal 6His affinity tail. 198/Bl is an example of antionant Factor IX (FIX)/activated Factor IX (FIXa) antibodies of the invention. Anti-FIX/FIXa antibodies and their derivatives, including scFv fragments, have FVIIIa cofactor activity or FIXa activating activity. Administration leads to an increase in the procoagulant activity of FIXa, even in the presence of FVIIIa inhibitors. This allows for rapid blood coagulation even in the absence of FVIII or FVIIIa, and in the case of FVIII inhibitor patients. The antibodies and derivatives are used in a claimed pharmaceutical composition for treating patients with blood coagulation disorders, especially haemophilia A and haemorrhagic disthesis. The scrivty or cruttile activity.
                                                 Query Match
Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                     New factor IX/factor IXa antibodies and their derivatives useful for increasing amidolytic activity of factor IXa, and for treating blood coagulation disorders such as hemophilia A and hemorrhagic diathesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Region
                                                                                                    Sequence 294
                                                                                                                                                                                                                                                                                                                                               Example 18; Fig 34; 138pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-SEP-2000; 2000WO-EP008936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein
                                                                                                                             FVIII-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scheiflinger F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200119992-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BAXT )
                                                                                                                                                                                                                                                                                                                                                                                                                           2001-290358/30
DB; AAF30732.
 73
                        2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BAXTER
                                                             Similarity
ISSGSSTYYPDSVKG
                        ISSGGSGTYYSDSVKG
                                                                                                                             activity
                                                  Conservative
                                                                                                    A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ĄG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99AT-00001576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kerschbaumer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= Signal_peptide
23. .294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= VH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= Myc_tag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /label= scFv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= His_tag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              label= Spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note= "encoded"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  label= Linker
                                                            79.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . 159
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 286
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Spacer
88
                        17
                                                Score 71; DB 4;
Pred. No. 0.037;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          γģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Falkner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               'n
                                                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dorner
                                                                         Length 294;
                                                0
                                                Gaps
                                                0;
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RESULT 35 AAB20438

The present sequence is that of a bivalent miniantibody comprising a Peleader peptide, the single chain Fv (scFv) fragment of antibody 198/B1 (subclone AB2), an amphipathic helical structure and a C-terminal 6His tag. The protein was expressed in Escherichia coli from plasmid pzip198AB2#102 (see AAF30728). Antibody 198/B1 is an example of anti-

Example 16; Fig 28; 138pp; English.

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New factor IX/factor IXa antibodies and their derivatives useful for increasing amidolytic activity of factor IXa, and for treating blood coagulation disorders such as hemophilia A and hemorrhagic diathesis
                                                                                                                            13-SEP-2000; 2000WO-EP008936
                                                                                                                                                                      Peptide
                                                                              WPI;
                                                                                        Scheiflinger F,
                                                                                                                 14-SEP-1999;
                                                                                                                                        22-MAR-2001
                                                                                                                                                    WO200119992-A2
                                                                                                                                                                                  Protein
                                                                                                                                                                                              Protein
                                                                                                                                                                                                         Peptide
                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                             Region
                                                                                                                                                                                                                                                         Peptide
                                                                                                                                                                                                                                                                     Misc-difference
                                                                                                                                                                                                                                                                                             Protein
                                                                                                                                                                                                                                                                                                        Protein
                                                                                                                                                                                                                                                                                                                         Peptide
                                                                                                                                                                                                                                                                                                                                Key
                                                                                                                                                                                                                                                                                                                                            Chimeric
                                                                                                                                                                                                                                                                                                                                                  Synthetic.
Escherichia
                                                                                                                                                                                                                                                                                                                                                              Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                       Anti-FIX/FIXa antibody 198/B1 bivalent miniantibody
                                                                                                                                                                                                                                                                                                                                                                                                                    21-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB20438 standard;
                                                                                                    (BAXT ) BAXTER
                                                                             2001-290358/30.
                                                                       AAF30728.
                                                                                                                                                                                                                                                                                                                                                  coli.
                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                 99AT-00001576
                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                  166
                                                                                                                                                                                                                                                          145.
                                                                                                                                                                           /label=
                                                                                                                                                                                                                                                                                                              /label= Signal_peptide
/note= "PelB leader"
                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                         Kerschbaumer
                                                                                                                                                                                        label=
                                                                                                                                                                                                    /label=
                                                                                                                                                                                                               'note= "encoded
                                                                                                                                                                                                                            note= "encoded"
                                                                                                                                                                                                                                                                                 /label= scFv
23. .144
                                                                                                                                                                                                                                                                                                  /label= Mature_protein
                                                                                                                                                                                                                                                               note= "encoded
                                                                                                                                                                                                                                                   label= Linker
                                                                                                                                                                                                                                                                           abel= VH
                                                                                                                                                                                                                                        abel=
                                                                                                                                                                                                                                                                                                                                                                                                                                          protein;
                                                                                                                                                                              .319
                                                                                                                                                                                                                                                         .159
                                                                                                                                                                                                          . 274
                                                                                                                                                                                                                                                                                             271
                                                                                                                                                                                                                                                                                                         325
                                                                                                                                                                                                                                        ₹
                                                                                                                                                               His_tag
                                                                                                                                                                            Helix
                                                                                                                                                                                                   Spacer
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                                                                                         70
                                                                                                                                                                                                                λĄ
                                                                                                                                                                                                                            λq
                                                                                                                                                                                                                                                               γģ
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                                                                                         Falkner
                                                                                                                                                                                                                            TNT"
                                                                                                                                                                                                                                                               GGN"
                                                                                                                                                                                                                TCN"
                                                                                         ъ
                                                                                         Dorner
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RESULT 36
AAB20437
ID AAB20
XX AAB20
XX AAB20
XX AAB20
XX Pacto
XX Facto
XX
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Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human Factor IX (FIX)/activated Factor IX (FIXa) antibodies of the invention. Anti-FIX/FIXa antibodies and their derivatives have FVIIIa cofactor activity or FIXa activating activity. Administration leads to a increase in the procoagulant activity of FIXa, even in the presence of FVIIIa inhibitors. This allows for rapid blood coagulation even in the absence of FVIII or FVIIIa, and in the case of FVIII inhibitor patients. The antibodies and derivatives are used in a claimed pharmaceutical composition for treating patients with blood coagulation disorders, especially haemophilia A and haemorrhagic diathesis. The bivalent miniantibody exhibited FVIII-like activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Factor IX; FIX; Factor IXa; FIXa; scFv; antibody; Factor VIII cofactor; blood coagulation disorder; haemorrhagic diathesis; haemostatic; amidolytic; talkaline phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB20437 standard; protein; 732 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 325
                                                  14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                      Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                   Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Anti-FIX/FIXa antibody 198/B1-alkaline phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-JUN-2001
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                                                                                                  13-SEP-2000; 2000WO-EP008936
                                                                                                                                                                                                       WO200119992-A2
                                                                                                                                                                                                                                                                                 Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Escherichia coli.
  (BAXT ) BAXTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A
K
                                                  99AT-00001576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23. .144
/label= VH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                            'label= VL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= scFv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   label= Mature_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     label Signal peptide
                                                                                                                                                                                                                                                                                                                                                         label= Spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                           label= Linker
                                                                                                                                                                                                                                                                                                       label= Alkaline_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note= "encoded by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                79.8%;
                                                                                                                                                                                                                                                                                                                                                                                    .275
                                                                                                                                                                                                                                                                                                                                                                                                                                         . 271
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                                                                                                                                                                                                                                                 Hie_tag
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 71; DB 4;
Pred. No. 0.041;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2
7:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               therapy; mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       procoagulant;
haemophilia A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fusion
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WO9524482-A1

Misc-difference Misc-difference Misc-difference Misc-difference 48.

95 93

"murine residue"

note=

"murine "murine

/note= note=

residue"

. 49

"murine residues"

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RASSULT 37
AAR82986
ID AAR82
XX AAR82
XX AAR82
XX LX26
DT 22-MA
XX LX26
CW Compl
KW Compl
KW Compl
KW Compl
KW Frame
XX Synth
XX Synth
XX Hisc.
FT Misc.
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Matches 14
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                                                                                                                                                                                                                                                                                                                                                          LK26 antigen; humanised antibody; antibody engineering; CDR; complementarity determining region; monoclonal antibody; heavy chain; framework NEWM; cancer; diagnosis; LK26HuVHI, I.
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                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                          Misc-difference
                                                                                                                                                                                                                                                                                                                            Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                    LK26 humanised VH region.
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14; Conserv
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27
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87.5%;
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RESULT 38
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 (SCOT-)
                           08-MAR-1994;
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                                               08-MAR-1995;
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                                                                                                                                                                                              Misc-difference
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SCOTGEN BIOPHARMACEUTICALS LUDWIG INST CANCER RES.
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27
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Pred. No. 0.01
1; Mismatches
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RESULT 39
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AAR82981
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LUDWIG I
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87.5%;
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1; Mismatches
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Recombinant humanised cancer cells in a huma

anti-LK26

antibody - useful

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treat

and

detect

Example 1; Page 23; 45pp; English.

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RESULT 40
AAR82
ID AAR82
XX AAR82
XX 22-MA
AXX LK26
KW Compl
XX LK26
KW Compl
XX Key
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A humanised heavy chain variable region (AAR82979), LK26HuVH, comprises the human NEWM framework (with some additional murine framework residues required for antigen specificity) and muses completarity determining regions from a monoclonal antibody specific for the LK26 cancer antigen. LK26HuVH and its variants (AAR82980-82, AAR82986) are used as components of humanised anti-LK26 antibodies
                                                                                                                                                                                                                                                                                                                                                                          Wallace TP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-MAR-1994;
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                                                                                                                                                                               Example 1; Page 23; 45pp; English.
                                                                                                                                                                                                                                      Recombinant humanised anti-LK26 antibody - useful cancer cells in a human.
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Search completed: December 17, 2004, 18:29:00 Job time: 53.6685 secs
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Best Local Similarity 87.5
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                                                    2 ISSGGSGTYYSDSVKG 17
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US-08-760-840A-18
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US-08-760-840A-2
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Sequence 18, Appl Sequence 8, Appli Sequence 8, Appli Sequence 2, Appli Sequence 2, Appli Sequence 19, Appli Sequence 21, Appli Sequence 22, Appli Sequence 21, Appli Sequence 22, Appli Sequence 23, Appli Sequence 24, Appli Sequence 28, Appli Sequence 28, Appli Sequence 28, Appli Sequence 29, Appli Sequence 21, Appli
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CHIMERA	Sequence 20, Appl Sequence 21, Appl Sequence 22, Appl Sequence 21, Appl Sequence 21, Appl Sequence 21, Appl Sequence 19, Appl Sequence 4, Appli Sequence 4, Appli Sequence 7, Appli Sequence 7, Appli Sequence 5, Appli Sequence 5, Appli Sequence 53, Appl Sequence 23, Appl Sequence 26, Appl Sequence 27, Appli Sequence 23, Appl Sequence 53, Appl Sequence 53, Appl Sequence 53, Appl
	SULT 1 -09-225-322B-18 -09-225-322B-18 Sequence 18, Application US/09225322B Sequence 18, Application US/0902 APPLICANT: HANAI, NOSUO APPLICANT: HASEGAWA, MAMORU APPLICANT: KUWANI, YOSHIHISA TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED FILE REFERENCE: 249-101 CURRENT FILING DATE: 1990-01-05 FRIOR APPLICATION NUMBER: US/09/225,322B CURRENT FILING DATE: 1995-03-21 PRIOR APPLICATION NUMBER: US 08/454,680 PRIOR FILING DATE: 1995-03-21 PRIOR PILING DATE: 1995-03-21 PRIOR PILING DATE: 1994-08-17 PRIOR APPLICATION NUMBER: US/09/29,178 PRIOR PILING DATE: 1992-09-17 PRIOR APPLICATION NUMBER: US/07/947,674 PRIOR APPLICATION NUMBER: US/07/947,674 PRIOR APPLICATION NUMBER: US/07/947,674 PRIOR APPLICATION NUMBER: US/07/947,674 PRIOR PILING DATE: 1991-09-18 NUMBER OF SEQ ID NOS: 19 SOFTWARE: Patentin Ver: 2.0 SEQ ID NO 18 LENGTH: 130 ORGANISM: Artificial Sequence PEATURE: OTHER INFORMATION: Description of Artificial Sequence OTHER INFORMATION: Description of Artificial Sequence OTHER INFORMATION: Description of Artificial Sequence

RESULT 2
US-09-704-304-18
; Sequence 18, Application US/09764304
; Patent No. 6495666
; Patent NoORMATION:
GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
; APPLICANT: HANAI, NOBUO

HASEGAWA,

MAMORU

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APPLICANT: KUWANA, YOSHIHISA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR PRIORION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR APPLICATION NUMBER: US 08/292,178
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PRIOR PRIOR DATE: 1991-09-18
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                                                ; OTHER INFORMATION: Description of Artificial Sequence: cDNA KM-641
US-09-225-322B-8
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CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER FILING DATE: 1995-03-21
EARLIER FILING DATE: 1995-03-21
                                                                                                                                                                 NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 8
LENGTH: 130
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SOFTWARE: PatentIn Ver. :
SEQ ID NO 18
Query Match
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Patent No. 6437098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EARLIER APPLICATION NUMBER: JP 3-238375
EARLIER FILING DATE: 1991-09-18
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EARLIER FILING DATE: 1994-08-17
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER FILING DATE: 1992-09-17
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APPLICANT: KUWANA, YOSHIHISA
                                                                                                 ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: CDNA KM-641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 130
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  92.1%;
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Score 82;
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DB
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4;
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PCT-US94-07659-6
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SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 8
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APPLICANT: SHITARA,
APPLICANT: HANAI, N
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GENERAL INFORMATION:
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Best Local (
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CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
EARLIER FILING DATE: 1999-01-05
EARLIER FILING DATE: 1995-05-31
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER FILING DATE: 1995-05-31
EARLIER APPLICATION NUMBER: US 08/454,680
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EARLIER APPLICATION NUMBER: JP 3-238375
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EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
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APPLICANT: KUWANA, YOSHIHISA
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APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
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                                                                                                                                       APPLICANT: Jackson, Jeffrey R. TITLE OF INVENTION: Recombinant TITLE OF INVENTION: Antibodies TITLE OF INVENTION: Disorders
                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                        NUMBER OF SEQUENCES:
STREET: 709 STUDENTS IN CITY: King of Prussia STATE: PA
                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                 61 ISSGGSGTYYSDSVKG
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                                                    709 Swedeland Road
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Hurle, Mark
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                                                                                                                                                                                                                                                   Jonak, Zdenka L.
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                                                                  SmithKline Beecham Corporation - Corp
Intellectual Property
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100.0%; Pred. No.
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Antibodies for Treatment of Il-1 Mediated Inflammatory
Disorders in Man
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hes 0;
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Best Local Similarity 82.7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
PRIOR APPLICATION NUMBER: US 08/090,534
APPLICATION NUMBER: US 08/090,534
FILLING DATE: 09-JUL-1993
ATTORNEY/AGENT INFORMATION:
NAME: SULTON, Jeffrey A.
REGISTRATION NUMBER: 34,028
REFERENCE/DOCKET NUMBER: P50171-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (610) 270-5024
TELEFAX: (610) 270-5090
INFORMATION FOR SEQ ID NO: 6:
                                                                                                      COUNTRY: USA
ZIP: 19406-2799
ZIP: 19406-2799
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compactible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PACENCIA Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
CLASSIFICATION:
PRIOR APPLICATION UNMBER: US 08/090,534
PRILING DATE: 09-JUL-1993
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                               FITLE OF INVENTION: Disorders in Man
                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 119 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                        ADDRESSEE: SmithKline Beecham Corporation - Corp
ADDRESSEE: Intellectual Property
STREET: 709 Swedeland Road
CITY: King of Prussia
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                                                                                                                                                                                                                                                                            STATE: PA
                                                                                                APPLICATION NUMBER:
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Hurle, Mark
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Jonak, Zdenka L
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TENTION: Recombinant and Humanized Il-1 beta
TENTION: Antibodies for Treatment of Il-1 Mediated Inflammatory
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Timothy
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82.4%; Pred. No.
                                                                                                  PCT/US94/07659
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                                                      , MOLECULE TYPE:
US-08-326-362-2
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APPLICANT: Bosslet
APPLICANT: Seeman,
APPLICANT: Dippold
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Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 2005-3315
ZIP: 2005-3315
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMMBER: US/08/326,362
FILING DATE:
CLASSIFICATION: 435
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (610) 270-5090 INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                    TELEFAX: 202-40
INFORMATION FOR SEQ
                                                                                                                                                                                                                                                                     PRIOR APPLICATION UMBER: US 08/032,863
APPLICATION UMBER: US 08/032,863
APPLICATION UMBER: US P 42 08 795.3
APPLICATION UMBER: US P 42 08 795.3
FILLING DATE: 19-MAR-1992
ATTORNEY/AGENT:INFORMATION:
NAME: EINAUG!, CAPOL P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Bosslet, Klaus
APPLICANT: Seeman, Gerhard
APPLICANT: Seeman, Gerhard
APPLICANT: Dippold, Wolfgang
TITLE OF INVENTION: Monoclonal Anti-Ganglioside Antibody,
TITLE OF INVENTION: Its Preparation and Use as a Tumortherapeutic Agent
                                                                                                                                                                                                 REGISTRATION NUMBER: 32,220
REFERENCE/DOCKET NUMBER: 024
TELECOMMUNICATION INFORMATION: 202-408-4000
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LENGTH: 247 amino acid
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REFERENCE/DOCKET NUMBER: P5
TELECOMMUNICATION INFORMATION:
                                                                                                                                               SEQUENCE CHARACTERISTICS:
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CORRESPONDENCE ADDRESS:
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CITY: Washington
STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Finnegan, Henderson, Farabow, Garrett & ADDRESSEE: Dunner
                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE:
                                                                                                                           LENGTH:
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                                                                                          H: 118 amino acids
amino acid
OGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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amino acid
XGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3: Dunner
1300 I Street, N.W., Suite 700
                                                                                                                                                                                     202-408-4400
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                                                                                                                                                                  ID NO: 2:
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82.4%; Pred. No.
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Score
Pred.
75;
No.
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0.0021;
0.0019;
                   DB 1;
                 Length 118;
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; LENGTH: 119 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-207-996-18
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                                                                                                                  US-08-207-996-19
                                                                                                                                 RESULT 9
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Patent No.
                                                                    Sequence 19, Application US/08207996
Patent No. 5646253
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 18:
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MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordDerfect 6.0/ASCII standard
CURRENT APPLICATION DATA:
             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: PASQUALINI, PATRICIA A.
REGISTRATION NUMBER: 34,894
REFERENCE/DOCKET NUMBER: LUD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
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                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: 212-688-9200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: FILING DATE: 08-MAFCLASSIFICATION: 530
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STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
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ZIP: 10022
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No. 5646253
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                                                                                                                                                                           51 ISSGGSYTYYADSVKG
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1345 Avenue of the Americas
New York, New York 10105
United States of America
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1014 Hamilton Court
Menlo Park, California 94025
             Scotgen Biopharmaceuticals,
1014 Hamilton Court
Menlo Park, California 94025
United States of America
1345 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Felfe & Lynch
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08-MAR-1994
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87.5%;
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                                                                                                                                                                                                                                                 Score 70; DB 1; Length 119; Pred. No. 0.0096;
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Best Local Similarity
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APPLICANT:
APPLICANT:
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APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
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STATE: New York
                                                                                                                  CITY: New York
                                                                                                                              STREET:
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                                                                                     New York
Y: U.S.A.
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COUNIA:.
ZIP: 10022
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC compatible
COMPUTER: IBM PC PC-DOS/MS-DOS
OPERAZIUM SYSTEM: PC-DOS/MS-DOS
OPERAZIUM SYSTEM: WordPerfect 6.0/ASCII standard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.0/ASCII standard
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/207,996
FILING DATE: 08-MAR-1994
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: PASQUALINI, PATRICIA A.
REGISTRATION NUMBER: 34,894
REFERENCE/DOCKET NUMBER: LUD-5363
TELECOMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEPAX: 212-688-9200
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
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ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
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APPLICANT: United States of America
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/08207996
                                                                                                                                                                                                                                        805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                         United States of Americas
1345 Avenue of the Americas
New York, New York 10105
United States of America
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Menlo Park, California 94025
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87.5%;
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Pred. No. 0.0096;
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CURRENT APPLICATION DATA:

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; TOPOLOGY: 1:
; MOLECULE TYPE:
US-08-207-996-20
                                                                                                 COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch

COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WOZDECTECE 6.0/ASCII standard
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/207,996
FILING DATE: 08-MAR-1994
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: PASQUALINI, Patricia A.
REGISTRATION NUMBER: 34,894
REFERENCE/DOCKET NUMBER: LUD-5363
TELECOMMUNICATION INFORMATION:
TELECHONE: 212-688-9200
TTSLEPHONE: 212-688-9200
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Best Local Similarity
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TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
                                                                    TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 21:
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APPLICANT:
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NAME: Pasqualini, Patricia A.
REGISTRATION NUMBER: 34,894
                                                   SEQUENCE CHARACTERISTICS
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ADDRESSEE: Felfe & Lynch
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 LENGTH: 119 amino acids TYPE: amino acid STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET:
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REFERENCE/DOCKET NUMBER: LUD-5363
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Y: U.S.A.
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United States of America
1345 Avenue of the Americas
New York, New York 10105
United States of America
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1014 Hamilton Court
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08-MAR-1994
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вingle
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US-08-207-996-27

US-08-207-996-27

; Sequence 27, Application US/08207996

; Patent No. 5646253
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                                                                                                                                                                                                                                ; TYPE: amino acid
STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-207-996-22
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: WordPerfect 6.0/ASCII standard
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/207,996
FILLNG DATE: 08-MAR-1994
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Scotge
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TELEPHONE: 212-688-9200
TELEFAX: 212-838-3884
                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Pasqualini, Patricia A.
REGISTRATION UNMEER: 34,894
REFERENCE/DOCKET NUMBER: LUD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: United & TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: New York
STATE: New York
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 10022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                LENGTH:
                                                                                                51 ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          51 ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14; Conservative
                                                                                                                  2 ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 ISSGGSGTYYSDSVKG 17
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805 Third Avenue
                                                                                                                                                                                                                                                                                                              119 amino acide
                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New York, New York 10105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1345 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Menlo Park, California 94025
United States of America
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scotgen Biopharmaceuticals,
                                                                                                                                                                              78.7%;
87.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       78.7%;
87.5%;
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                                                                                                                                                                                                                                                                                                                                                  22:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                              Score 70; DB 1;
Pred. No. 0.0096;
                                                                                                                                                                                                                                                                                                                                                                                                                    LUD-5363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 70;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.0096;
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                                                                                                                                                                1; Indels
                                                                                                                                                                                               Length 119
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                                                                                                                                                                Gaps
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GENERAL INFORMATION:

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RESULT 14
US-08-760-840A-18
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                                                                                                                                                                                                                                                                                                                                Patent No. 5952484
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                    Sequence 18,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.0/ASCII standard
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/207,996
FILING DATE: 08-MAR-1994
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: PASQUALINI, PATTICLE
NAME: PASQUALINI, PATTICLE
REFERENCE/DOCKET NUMBER: 34,894
REGISTRATION NUMBER: 34,894
REFERENCE/DOCKET NUMBER: JUD-5363
TELECOMMUNICATION INFORMATION:
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INFORMATION FOR SEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                            APPLICANT:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                   APPLICANT: PAUL WALLACE;
APPLICANT: William J. HARRIS;
APPLICANT: Wolfgang J. RETTIG;
APPLICANT: Pilar GARIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: RECOMBINAN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: New York
STATE: New York
COUNTRY: U.S.A.
                                                                                                           CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                         COUNTRY: U.S.A. ZIP: 10022
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                                                                                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             51 ISSGGSYTYYADSVKG 66
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805 Third Avenue
                                                                                                                                               805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              United States of America
1345 Avenue of the Americas
New York, New York 10105
United States of America
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1014 Hamilton Court
Menlo Park, California 94025
                                                                                                                                                                                                                                                                                                              Paul WALLACE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78.7%; Score 70; DB 1; Length 119; 87.5%; Pred. No. 0.0096;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-760-840A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                       APPLICATION NUMBER: US/08,
FILING DATE: 05-DEC-1996
CCLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 5952404man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 53
TELECOMMUNICATION INFORMATION:
                            ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 5952404man D.
REGISTRATION UNMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 53
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 536
PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Pilar GÄRIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                                                                                                                                                                                                                                                  SOFTWARE: Wordperfect CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Paul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                            CITY: New York
STATE: New York
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
STRANDEDNESS: unl
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                                                                                                                       FILING DATE: 08
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 08 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE:
TELEPHONE: 212-688-92
TELEFAX: 212-838-3884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: 212-688-9200
TELEFAX: 212-838-3884
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             51 ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ch 78.7%;
l Similarity 87.5%;
14; Conservative
                                                                                                                                                                                                                                                                                                                                                           10022
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5952484
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                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Felfe & Lynch
805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wolfgang J. RETTIG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              William J. HARRIS;
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                                                                                                                                        08-MAR-1995
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                                                                                                                                                              PCT/US 95/03094
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 70; DB 2;
Pred. No. 0.0096
                                                    LUD 5363.1 DIV. - JEL/NDH/SLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LUD 5363.1 DIV. - JEL/NDH/SLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 119
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US-08-760-840A-20
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                                                           Matches
                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             equence 20, Application US/08760840A
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                                                                                                                                  TOPOLOGY: un MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/760,840A FILING DATE: 05-DEC-1996 CLASSIFICATION: 536 PRIOR APPLICATION DATA: APPLICATION NUMBER: PCT/US 95/03094 FILING DATE: 08-MAR-1995 CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: LU
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Local Similarity 87.5%;
                                                          Local Similarity 87.9
                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                     NAME: Hanson, No. 5952484man D. REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                         TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         51
52
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                          2 ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        amino acid
                                                                                                                                                                               amino acid
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ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3: Felfe & Lynch
805 Third Avenue
                                                                                                                                                                                                                                         212-838-3884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  William J. HARRIS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                          212-688-9200
                                                                                                                                    protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          unknown
                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WALLACE;
                                                                       78.7%;
87.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19:
                                                                        Score 70; DB 2;
Pred. No. 0.0096;
                                                                                                                                                                                                                                                                                       LUD 5363.1 DIV. - JEL/NDH/SLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 70;
Pred. No.
                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                          1; Indels
                                                                                     Length 119;
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US-08-760-840A-22
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US-08-760-840A-21
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Best Local S
Matches 14
                                                                                                                                                                                              Sequence 22,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WOTOGREFECT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/760,840/
FILING DATE: 05-DEC-1996
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
CLASSIFICATION: 536
PRIOR DATE: 08-MAR-1995
CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: HANSON, NO. 5952484man D.
REGISTRATION NUMBER: 10,946
REGERENKEY LOWERT NUMBER: 110 5363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acid
                                                                                                                                                           atent No. 5952484 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                  CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: LU
LECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: U.S.A. ZIP: 10022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE:
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EET: 805 Third Avenue
Y: New York
                                                                                                                                                                                                                                                                                      51
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                             ANT: Lloyd J. OLD

OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                      ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                      ISSGGSGTYYSDSVKG 17
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                                                                                                                                                                                              Application US/08760840A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Paul WALLACE;
William J. HARRIS;
Wolfgang J. RETTIG;
Pilar GARIN-CHESA;
                                                                                                      Paul WALLACE;
William J. HARRIS;
Wolfgang J. RETTIG;
                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                     Pilar GARIN-CHESA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unknown
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87.5%;
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                                                                                                                                                                                                                                                                                                                                                                            Score 70;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LUD 5363.1 DIV. - JEL/NDH/SLH
                                                                                                                                                                                                                                                                                                                                                                              DB 2;
0.0096;
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RESULT 19
US-08-760-840A-28
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GENERAL INFORMATION:
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Best Local (
                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WOrdperfect
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/760,840A
PILING DATE: 05-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEPAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION UNMBER: PCT/US 95/03094
FILLING DATE: 08-MAR-1995
CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, NO. 5952484man D.
REGISTRATION UNMBER: 30,946
REFERENCE/DOCKET NUMBER: 10D 5363.1 DIV. - JEL/NDH/SLH
                                                                                                                                                                                                                                                                                                                                      APPLICANT: PAUL WALLACUS;
APPLICANT: William J. HARRIS;
APPLICANT: Wolfgang J. RETTIG;
APPLICANT: Pilar GARIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES; 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                      ADDRESSEE: Felfe
STREET: 805 Third
CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 805 Third Avenue
CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/760,840A FILING DATE: 05-DEC-1996
                                                                                                                                                                                                                 COUNTRY: U.S.A. ZIP: 10022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 87.1
14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/08760840A
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                                                                                                                                                                                                                                                                                      805 Third Avenue
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                                                                                                                                                                                                                                                                                                              Felfe & Lynch
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       78.7%; Score 70; DB 2; Length 119; 87.5%; Pred. No. 0.0096; ative 1; Mismatches 1; Indels
  PCT/US 95/03094
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-266-119-18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 78.7%; Score 70; DB 2; Best Local Similarity 87.5%; Pred. No. 0.0096; Matches 14; Conservative 1; Mismatches
                                                                                                                                                                                 CURRINT APPLICATION DATA:
APPLICATION NUMBER: US/09/266,119
FILING DATE:
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 08/760,840
FILING DATE:
CLASSIFICATION:
APPLICATION NUMBER: 08/760,840
FILING DATE:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
ATTORNEY/AGENT INFORMATION:
ARBERENCE/DOCKET NUMBER: 30,946
REGISTRATION NUMBER: 30,946
REGISTRATION NUMBER: LUD 5363.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                             TELEFAX: 212-838-3884 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Wolfgang J. RETTIG;
APPLICANT: Pilar GARIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
TOPOLOGY: u
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: New York
STATE: New York
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Hanson, No. 5952484man D. REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 53
                                 STRANDEDNESS:
                                                    TYPE: amino acid
                                                                                                             IELEPHONE: 212-00: 884
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: 212-688-9200
TELEFAX: 212-838-3884
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             51 ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10022
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805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     William J. HARRIS;
                 unknown
                                                                                                                                                  212-688-9200
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                                     unknown
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                                                                                                               18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28:
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RESULT 22
US-09-266-119-20
; Sequence 20, Applicati
; Sequence No. 6124106
; Patent No. 6124101
; GENERAL INFORMATION:
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US-09-266-119-19
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Best Local
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                                                                                                                                                                                Matches
                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/266,119
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/760,840
PILING DATE:
PRIOR APPLICATION NUMBER: 08/760,840
                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
ATTORNEY AGENT INFORMATION:
ATTORNEY AGENT INFORMATION:
NAME: Hanson, No. 6124106man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: 19:
                                                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Paul WALLACE;
APPLICANT: William J. HARRIS;
APPLICANT: Wolfgang J. RETTIG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Pilar GÄRIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     / Match 78.7%; Score 70; [
Local Similarity 87.5%; Pred. No. 0.
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STATE: New York
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                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                14;
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                                                                                                               ISSGGSYTYYADSVKG 66
                                Application US/09266119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3: Felfe & Lynch
805 Third Avenue
                                                                                                                                                                                                                                                                                                                         119 amino acids
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                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                             78.7%; Score 70;
87.5%; Pred. No.
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Matches
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APPLICANT:
APPLICANT:
 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                   COUNTRY: U.S.A. ZIF: 10022
                                                                               CITY: New York
                                                                  New York
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; MOLECULE TYPE: protein US-09-266-119-20
                                                                                                                                                           Patent No. 6124100:
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INFORMATION FOR SEQ ID NO:
 APPLICANT: Pilar GARIN-CHESA;
APPLICANT: Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe F. T. T. STREET.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6124106man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. -
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
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APPLICANT: LIOYd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                 APPLICANT: Paul WALLACE;
APPLICANT: William J. HARRIS;
APPLICANT: Wolfgang J. RETTIG;
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MEDIUM TYPE: Floppy
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APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
STRANDEDNESS: unl
TOPOLOGY: unknown
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STATE: New York
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                                                                                                                                                                                                                                                                                               51 ISSGGSYTYYADSVKG 66
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                                                                                                                                                                                                          Application US/09266119
E: Felfe & Lynch
805 Third Avenue
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805 Third Avenue
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Wolfgang J. RETTIG;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown
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87.5%;
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                                                                                                                                                                                                                                                                                                                                                                                  Score 70;
Pred. No.
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0.0096;
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SOFTWARE: Wordperfect CURRENT APPLICATION DATA

COMPUTER: IBM PC
OPERATING SYSTEM:
SOFTWARE: Wordper

IBM PC compatible SYSTEM: PC-DOS/MS-DOS

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Best Local Similarity
Matches 14; Conserv
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GENERAL INFORMATION:
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                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WOrdperfect
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/09/266,119
FILING DATE:
FILING DATE:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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APPLICANT:
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TOPOLOGY: unknown
MOLECULE TYPE: protein
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: HANSON, NO. 6124106man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 53
TELECOMMUNICATION INFORMATION:
                                                                                                                          CLASSIFICATION:
PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: William J. HARRIS;
APPLICANT: Wolfgang J. RETTIG;
APPLICANT: Filar GARIN-CHESA;
APPLICANT: Liloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
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APPLICATION NUMBER:
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STREET: 80
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ZIP: 10022
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STATE: New York
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                                                                                                           FILING DATE:
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805 Third Avenue
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
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87.5%; Pred. No. 0.0096;
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                                                                                                                              08/760,840
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                  LUD 5363.1 DIV. - JEL/NDH/SLH
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; MOLECULE TYPE: protein
US-09-266-119-22
                                                         US-09-266-119-28
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            Query Match
Best Local Similarity
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Patent No.
 Matches
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Best Local Similarity
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                          TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
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APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
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STATE: New York
STATE: U.S.A.
                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6124106man D
REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/266,119
                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
                                                                       MOLECULE TYPE:
                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 119 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
                                                                                                     STRANDEDNESS:
                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: LU
                                                                                                                                                                                                                                                                                                                                              FILING DATE:
CLASSIFICATION:
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                                                                                                                                 LENGTH:
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6124106
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l Similarity 87.5%;
l4; Conservative 1
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                                                                                                                   amino acid
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                                                                                                                               119 amino acids
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Lloyd J. OLD
VENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
 Conservative
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William J. HARRIS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wolfgang J. RETTIG;
                                                                                        unknown
                                                                                                                                                                                               212-688-9200
                                                                       protein
                                                                                                      unknown
          78.7%;
87.5%;
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Score 70; DB 3;
Pred. No. 0.0096;
1; Mismatches
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Pred. No. 0.0096;
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                            Length 119;
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Gaps
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2 ISSGGSGTYYSDSVKG 17

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RESULT 26
US-09-602-709-18
; Sequence 18, Application US/09602709
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US-09-602-709-19
; Sequence 19, Application US/09602709
; Patent No. 6348195
; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 87.1 Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/602,709
FILING DATE: 26-Jun-2000
CLASSIFICATION DATA:
APPLICATION NUMBER: 09/266,119
FILING DATE: «Unknown»
APPLICATION NUMBER: 09/266,119
FILING DATE: «Unknown»
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6348195man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEPHONE: 212-688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO: 18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES NUMBER OF SEQUENCES: 31
                                                                                                              APPLICANT: Paul WALLACE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                  51
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|ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 10022
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: unknown
                                   William J. HARRIS;
Wolfgang J. RETTIG;
Pilar GARIN-CHESA;
Lloyd J. OLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pilar GARIN-CHESA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     William J. HARRIS; Wolfgang J. RETTIG;
                                                                                                                                                                                                                                                                                                                                                           78.7%; Score 70; D
87.5%; Pred. No. 0.
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                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                 DB 3;
                                                                                                                                                                                                                                                                                                                                                               , 9600
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                       ZIP: 10022
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Sequence 20, Application US/09602709
Patent No. 6348195
GENERAL INFORMATION:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEPHONE: 212-688-9200
TELEPAX: 212-388-3884
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
TYPE: amino acid
                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: WOrdperfect
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/09/602,709
FILING DATE: 26-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:

ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
'CITY: New York
STATE: New York
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/266,119
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6348195man D.
REGISTRATION NUMBER: 30,946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/602,709
FILING DATE: 26-Jun-2000
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: unknown
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Paul WALLACE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51 ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                        STATE: New York COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                STREET: 805 Third Avenue CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: unknown
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CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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Wolfgang J. RETTIG;
Pilar GARIN-CHESA;
Lloyd J. OLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        78.7%; Score 70; DB 3;
87.5%; Pred. No. 0.0096;
ative 1; Mismatches
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US-09-602-709-21
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO: 20: SEQUENCE CHARACTERISTICS:
                                   TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 119 amino acids
                                                                                                                     APPLICATION NUMBER: US/09/602,709

FILING DATE: 26-Jun-2000

CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:

APPLICATION NUMBER: 09/266,119

FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:

NAME: Hanson, No. 6348195man D.

REGISTRATION NUMBER: 30,946

REGISTRATION NUMBER: JUD 5363.1 DIV. - JEL/NDH/SLH
TELECOMMUNICATION:
TELEPHONE: 212-688-9200
                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: unknown
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 20:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: 212-688-9200 TELEFAX: 212-838-3884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 09/266,119
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
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ADDRESSEE: Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Paul WALLACE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 119 amino acids TYPE: amino acid STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Hanson, No. 6348195man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
                   TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 805 Third Avenue
STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/09602709
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Pilar GARIN-CHESA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       William J. HARRIS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     78.7%; Score 70; DB 3; 87.5%; Pred. No. 0.0096;
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US-09-602-709-22
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                                                                          Query Match
Best Local S
Matches 14
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Patent No. 6348195
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-688-9200
TELEPAX: 212-838-3849
INFORMATION FOR SEQ ID NO: 22:
                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/602,709
FILING DATE: 26-Jun-2000
CLASSIFICATION = <Unknown>
PRIOR APPLICATION NUMBER: 09/266,119
APPLICATION NUMBER: 09/266,119
FILING DATE: <Unknown>
APPLICATION NUMBER: 09/266,119
FILING DATE: <Unknown>
APPLICATION NUMBER: 09/266,119
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6348195man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
                                                                                                                                                                        LENGTH: 119 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 10022
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lloyd J. OLD
TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Paul
                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ch 78.7%;
l Similarity 87.5%;
14; Conservative 1
                                                                            14; Conservative
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                                   2 ISSGGSGTYYSDSVKG 17
                                                                                               Similarity
ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE: New York COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/09602709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DDRESSEE: Felfe & Lynch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         William J. HARRIS;
Wolfgang J. RETTIG;
Pilar GARIN-CHESA;
                                                                                             78.7%;
87.5%;
                                                                            ٠.
                                                                          Score 70; DB 3; Length 119; Pred. No. 0.0096; 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 70; DB 3;
Pred. No. 0.0096;
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                                                                                                                                                                              22:
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RESULT 31 US-09-602-709-28 ; Sequence 28, Application US/09602709

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RESULT 32
US-09-497-997C-31
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                          Sequence 31, Application US/09497997C Patent No. 6635248
                 APPLICANT: AVRAMEAS, STRAITIS
APPLICANT: SARON, MARIE-FRANCOISE
APPLICANT: BLONDEL, BRUNO
APPLICANT: BLONDEL, BRUNO
APPLICANT: COUDERC, THERESA
APPLICANT: MICHELSON, SUSAN
APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/09/497,997C
CURRENT FILING DATE: 2000-02-04
                                                                                                                                                                                                                                                APPLICANT: TERNYNCK, THERESA APPLICANT: AVRAMEAS, ALEXANDRE
                                                                                                                                                                                                                                                                                         ENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 212-838-3884
INFORMATION FOR SEQ ID NO: 28:
SEQUENCE CHARACTERISTICS:
RIOR APPLICATION NUMBER: PCT/FR98/01740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 09/266,119
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 6348195man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: LUD 5363.1 DIV. - JEL/NDH/SLH
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/09/602,709
FILING DATE: 26-Jun-2000
CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: unknown MOLECULE TYPE: protein SEQUENCE DESCRIPTION:
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TITLE OF INVENTION: RECOMBINANT HUMAN ANTI-LK26 ANTIBODIES
NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 10022
COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: Felfe & Lynch
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                                                                                                                                                                                                                                                                                                                                                                                                                                        51
                                                                                                                                                                                                                                                                                                                                                                                                                                        ISSGGSYTYYADSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 119 amino acids TYPE: amino acid STRANDEDNESS: unknown
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87.5%;
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Pred. No.
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TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO CI
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/09/497,997C
CURRENT FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
SOPTWARE: PatentIn version 3.1
SEQ ID NO 19
                                                                                                                                                                              Sequence 4, Application US/09497997C Patent No. 6635248
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NUMBER OF SEQ ID NOS: 36
SOFTWARE: PatentIn version 3.1
SEQ ID NO 31
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Best Local Similarity
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 APPLICANT:
                                                                   APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDRE
APPLICANT: BUTTIN, GERARD
APPLICANT: AVRAMEAS, STRAITIS
APPLICANT: SARON, MARIE-FRANCOISE
APPLICANT: SARON, MARIE-FRANCOISE
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APPLICANT: AVRAMEAS, ALEXANDRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Artificial Sequence
PEATURE:
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
FEATURE:
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BLONDEL, BRUNO
COUDERC, THERESA
MICHELSON, SUSAN
ZIPETO, DONATO
                                                                                                                                                                                                                                                                                           YISRGGVSTYYSDTVKG 19
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BUTTIN, GERARD
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COUDERC, THERESA
MICHELSON, SUSAN
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76.5%;
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Pred. No.
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Pred. No.
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                                                                                                                        RESULT 36
US-09-336-093-4
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Sequence 4, Application US/09336093A
Patent No. 6348185
GENERAL INFORMATION:
APPLICANT: Washington University School of Medicine
TITLE OF INVENTION: MEMBRANE-PERMEANT PEPTIDE COMPLEXES FOR MEDICAL
TITLE OF INVENTION: IMAGING, DIAGNOSTICS, AND PHARMACEUTICAL THERAPY
FILE REFERENCE: WSHU 2001
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SEQ ID NO 20
LENCTH: 22
TYPE: PRT
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SEQ ID NO 4
LENGTH: 22
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Best Local S
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APPLICANT: AVEAMEAS,
APPLICANT: BUTTIN,
APPLICANT: AVEAMEAS,
APPLICANT: SARON, MAI
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Best Local Similarity
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CURRENT APPLICATION NUMBER: US/09/497,997C
CURRENT FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR PILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
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CURRENT APPLICATION NUMBER: US/09/497,997C
CURRENT FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
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APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
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ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                    Local Similarity
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AVRAMEAS, ALL.
CTRAI
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COUDERC, THERESA
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76.5%;
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Pred. No.
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                                                                                                                                                                                                                                                                                    Pred.
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GENERAL INFORMATION:

APPLICANT: Washington University
APPLICANT: Piwnica-Worms, David
TITLE OF INVENTION: MEMBRANG-PERMEANT PEPTIDE COM
TITLE OF INVENTION: PHARMACEUTICAL THERAPY
FILE REFERENCE: WSHU 2020
CURRENT APPLICATION UNUMBER: US/09/557,465D
CURRENT FILING DATE: 2000-04-25
PRIOR APPLICATION NUMBER: US 9/557,465
PRIOR APPLICATION NUMBER: US 9/557,465
PRIOR APPLICATION NUMBER: US 09/336,093
PRIOR APPLICATION NUMBER: US 09/336,093
PRIOR APPLICATION NUMBER: US 09/336,093
PRIOR APPLICATION NUMBER: US 60/090,087
PRIOR APPLICATION NUMBER: US 60/090,087
PRIOR FILING DATE: 1998-06-20
NUMBER OF SEQ ID NOS: 3
SOFTWARE: PATENTIN VERSION 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
OPCANIENT APPLICATION VERSION 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: peptide
; OTHER INFORMATION: derivable from the heavy chain variable reagion
; OTHER INFORMATION: an anit-DNA monoclonal antibody
US-09-336-093-4
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Matches 13
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Best Local S
Matches 13
                                   GENERAL INFORMATION:
APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDRE
APPLICANT: BUTTIN, GERARD
APPLICANT: AVRAMEAS, STRAITIS
                                                                                                                                Sequence 7, Application US/09497997C Patent No. 6635248
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LENGTH: 3
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CURRENT FILING DATE: 1999-06-18
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver. 2.1
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: peptide derivable from the heavy chain variable region of an OTHER INFORMATION: -DNA monoclonal antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Artificial sequence FEATURE:
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                   AVRAMEAS, ALEXANDRE
BUTTIN, GERARD
AVRAMEAS, STRAITIS
SARON, MARIE-FRANCOISE
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Pred. No.
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Pred. No.
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APPLICANT:

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; OTHER INFORMATION: Artificially synthesized peptide sequence
US-09-720-003C-5
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US-09-720-003C-5
                                                                                                                               RESULT 40
US-09-497-997C-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Hasegawa, Mamoru

APPLICANT: Nakanishi, Mahito

TITLE OF INVENTION: Nucleic Acid Transfer Phage

FILE REFERENCE: 50026/026001

CURRENT APPLICATION NUMBER: US/09/720,003C

CURRENT FILING DATE: 2001-09-04

PRIOR APPLICATION NUMBER: PCT/JP99/03272

PRIOR APPLICATION NUMBER: PCT/JP99/03272

PRIOR FILING DATE: 1999-06-18

PRIOR FILING DATE: 1998-06-18

PRIOR FILING DATE: 1998-06-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 5
LENCTH: 30
TYPE: PRT
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                                                               Sequence 9, Application US/09497997C Patent No. 6635248 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE
0-09-497-997C-7
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TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/09/497,997C
CURRENT FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
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APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDRE
APPLICANT: BUTTIN, GERARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS:
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APPLICANT: Yokoi, Harul
                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                / Match 77.5%; Score 69; Local Similarity 76.5%; Pred. No. () 13; Conservative 1; Mismatch
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No. 6740524
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Takeda, Katsuo
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NUMBER OF SEQ ID NOS: 36

SOFTWARE: PatentIn version 3.1

SEQ ID NO 9

LENGTH: 31

TYPE: PRT

ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE

US-09-497-997C-9
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밁
                                                             Query Match
Best Local Similarity
Matches 13; Conserv
                                                                                                                                                                                                                                                                                                                     APPLICANT: ZIPETO, DÓNATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO CI
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/09/497,997C
CURRENT FILING DATE: 2000-02-04
                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
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                               YISSGSSTYYSDSVKG 17
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SARON, MARIE-FRANCOISE
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COUDERC, THERESA
MICHELSON, SUSAN
                                                                 Conservative
                                                                               77.5%;
20
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Pred. No.
                                                                  Mismatches
                                                                                  DB 4;
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Search completed: December 17, 2004, 18:32:07 Job time : 10.3146 secs

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Database :
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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Perfect score:
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Published Applications AA:*

1: /cgn2 6/ptodata/2/pubpaa/US07 PUBCOMB.pep:*

2: /cgn2 6/ptodata/2/pubpaa/US06 NEW PUB.pep:*

3: /cgn2 6/ptodata/2/pubpaa/US06 NEW PUB.pep:*

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Gapop 10.0 , Gapext 0.5
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185.159 Million cell updates/sec
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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	US-09-880-748-1905	US-10-293-418-2039	US-10-293-418-1906	US-09-880-748-2039	US-09-880-748-1906	US-10-383-447-6	US-10-779-461-23	US-10-166-626-8	US-10-265-713-8	US-09-764-304-8	US-10-166-626-18	US-10-265-713-18	US-09-764-304-18	ID
•	Sequence 1905, Ap	Sequence 2039, Ap	Sequence 1906, Ap	Sequence 2039, Ap	Sequence 1906, Ap	Sequence 6, Appli	Sequence 23, Appl	Sequence 8, Appli	Sequence 8, Appli	Sequence 8, Appli	Sequence 18, Appl	Sequence 18, Appl	Sequence 18, Appl	Description.

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e 38	41,	Sequence 39, Appl	38,	e 49	49	e 49	49,		53	e 53	53,		26	e 26,	e 26	æ	e 2,	e 26	10,	e 23,	9	е4,	4	e 21	е 7,	e 20,	0 4	e 19	e 31,	equence 4,	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

## ALIGNMENTS

; SEQ ID NO 18 ; LENGTH: 130 ; TYPE: PRT ; ORGANISM: Artificial Sequence ; FEATURE: ; FEATURE: ; OTHER INFORMATION: CDNA KM-641 US-09-764-304-18	; EARLIER FILING DATE: 1922-09-17; ; EARLIER APPLICATION NUMBER: JP 3-238375 ; EARLIER FILING DATE: 1991-09-18 ; NUMBER OF SEQ ID NOS: 19 ; SOFTWARE: Patentin Ver. 2.0	APPLICATION N FILING DATE: APPLICATION N FILING DATE: APPLICATION N	FBRENCE: 249 APPLICATION FILING DATE APPLICATION FILING DATE APPLICATION FILING DATE APPLICATION APPLICATION	RESULT 1  US-09-764-304-18.  Sequence 18, Application US/09764304  Patent No. US20020026036A1  GENERAL INFORMATION:  APPLICANT: SHITARA, KENYA  APPLICANT: HASEGAWA, MOBUO  APPLICANT: HASEGAWA, MAMORU  APPLICANT: MIYAJI, HIROMASA  APPLICANT: MIYAJI,
•				YTOBITN

Query Match

DB 9;

Length 130;

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Sequence 18, Application US/1016626
Publication No. US20030166876A1
GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGNWA, MANORU
APPLICANT: MIYAJI, HIROWASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT FAPLICATION NUMBER: US/10/166,626
CURRENT FAPLICATION NUMBER: US/09/225,322B
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/408,133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: HARBGAMA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWAAJI, HIROMASA
APPLICANT: KUWAAJA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/10/265,713
CURRENT FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: US/09/225,322
PRIOR APPLICATION NUMBER: US/09/25,322
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR FILING DATE: 1995-03-21
PRIOR FILING DATE: 1995-03-21
PRIOR FILING DATE: 1994-08-17
PRIOR FILING DATE: 1994-08-17
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                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
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US-10-265-713-18
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Publication No. US20030095964A1
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PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENGTH: 130
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Conservative
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WA, MAMORU
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Pred. No.
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US-09-764-304-8
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US-10-166-626-18
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Best Local S
Matches 17
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Patent No. US20020026036A1
GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
                                                                                                                                                                                                                                                             EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 8
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SEQ ID NO 18
                                                                          Matches
                                                                                           Best Local
                                                                                                           Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
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PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US07/947,674
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EARLIER APPLICATION NUMBER: JP 3-238375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 19
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                                                                                                                                                                                                                          LENGTH: 13
TYPE: PRT
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                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                        ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                     OTHER INFORMATION: cDNA KM-641
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APPLICATION NUMBER: JP 3-238375
61
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                                   2 ISSGGSGTYYSDSVKG 17
                                                                                           Similarity
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 ISSGGSGTYYSDSVKG 76
                                                                      Conservative
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                                                                                         92.1%; Score 82;
100.0%; Pred. No.
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Pred. No. 8.1e-05;
Mismatches 0;
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                                                                                           DB 9; I
0.00077;
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RESULT 5 US-10-265-713-8

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US-10-265-713-8
CURRENT FILING DATE: 2002-06-12
PRIOR APPLICATION NUMBER: US/00/25,322B
PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR PILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR PILING DATE: 1995-03-21
PRIOR PILING DATE: 1995-03-71
PRIOR PILING DATE: 1994-08-17
PRIOR PILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US 09/947,674
PRIOR FILING DATE: 1991-09-18
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NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 8
LENGTH: 130
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Publication No. US20030095964A1
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Publication No. US20030166876A1
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Best Local Similarity
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PRIOR FILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR APPLICATION NUMBER: JP 3-238375
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CURRENT APPLICATION NUMBER: US/10/265,713
CURRENT FILING DATE: 2002-10-08
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PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
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PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
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TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
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APPLICANT: KUWANA, YOSHIHISA
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                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: MIYAJI, HIROMASA
PEPLICANT: KUWANA, YOSHIHISA
FITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE PT
TYPE PT
ORGANISM: Artificial Sequence
PEATURE:
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HASEGAWA, MAMORU
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100.0%; Pred. No.
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; TYPE: PRT
; ORGANISM: Artificial Sequence
; PRATURE:
; PRATURE:
; OTHER INFORMATION: Description of Artificial Sequence: cDNA KM-641
US-10-166-626-8
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US-10-779-461-23
                             APPLICANT: Powers, David
TITLE OF INVENTION: Antibodies Against Cancer Antigen TMEFF2 and Uses Thereof
FILE REFERENCE: 05802.0138.NPUS00
CURRENT APPLICATION NUMBER: US/10/383,447
CURRENT FILING DATE: 2002-03-07
PRIOR APPLICATION NUMBER: US 60/362,837
PRIOR APPLICATION NUMBER: US 60/362,837
PRIOR PILING DATE: 2002-03-08
PRIOR PPLICATION NUMBER: US 60/463,812
PRIOR PPLICATION NUMBER: US 60/463,812
PRIOR FILING DATE: 2002-12-27
NUMBER OF SEQ ID NOS: 34
SOFTWARE: Patentin version 3.2
SEQ ID NO 6
LENGTH: 120
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PRIOR FILING DATE: 2003-02-13
NUMBER OF SEQ ID NOS: 161
SOFTWARE: PatentIn version 3.2
SEQ ID NO 23
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Publication No. US20040166544A1

GENERAL INFORMATION:
APPLICANT: Morton, Philip A
TITLE OF INVENTION: ANTIBODIES TO C-MET FOR THE TREATMENT OF CANCERS
FILE REFERENCE: 00980/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
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Publication No. US20040096392A1
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Best Local Similarity
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Best Local Similarity
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APPLICANT: de la Calle, Agustin
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CURRENT FILING DATE: 2004-02-13
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ORGANISM: artificial
FEATURE:
ORGANISM: Artificial
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Murray, Richard
Afar, Daniel
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82.4%; Pred. No. 0.
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; OTHER INFORMATION: Heavy chain variable region US-10-383-447-6
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US-09-880-748-1906
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US-09-880-748-1906
                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/880,748
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-15
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR FILING DATE: 2001-03-16
PRIOR FILING DATE: 2001-03-16
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PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-15
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR FILING DATE: 2001-03-21
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PRIOR FILING DATE: 2001-05-25
NUMBER OF SEQ ID NOS: 3239
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 1906
LENGTH: 237
                                                                                                                                                                                                                                                                                                                                                                       Sequence 2039, Application US/09880748 Publication No. US20030059937A1 GENERAL INFORMATION:
SEQ ID NO 2039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1906, Application US/09880748 Publication No. US20030059937A1 GENERAL INFORMATION:
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Best Local Similarity
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TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523
                                                          PRIOR APPLICATION NUMBER: 60/277,379
PRIOR PPLILING DATE: 2001-03-21
PRIOR APPLICATION NUMBER: 60/293,499
PRIOR FILING DATE: 2001-05-25
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CURRENT FILING DATE: 2001-06-15
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TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
                                      NUMBER OF SEQ ID NOS: 3239
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                   PatentIn Ver. 2.0
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82.4%; Pred. No.
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Pred. No. 0.
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; NUMBER OF SEQ ID NOS
; SEQ ID NO 1906
; LENGTH: 237
                                                                                                                                                                                                                                                                               US-10-293-418-2039
                                                 Sequence 2039, Application US/10293418

Publication No. US20030223996A1

GENERAL INFORMATION:
APPLICANT: Ruben et al.
TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523P2
CURRENT APPLICATION NUMBER: US/10/293,418
CURRENT FILING DATE: 2002-11-27
PRIOR APPLICATION NUMBER: 60/331,469
PRIOR APPLICATION NUMBER: 60/340,817
PRIOR FILING DATE: 2001-11-16
PRIOR FILING DATE: 2001-12-19
PRIOR FILING DATE: 2001-12-19
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Publication No. US20
GENERAL INFORMATION:
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Best Local
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Best Local Similarity
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PRIOR FILING DATE: 2001-11-10

PRIOR APPLICATION NUMBER: 60/340,817

PRIOR APPLICATION NUMBER: 60/340,817

PRIOR APPLICATION NUMBER: 60/340,747
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CURRENT APPLICATION NUMBER: US/10/293,418
CURRENT FILING DATE: 2002-11-27
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FILING DATE: 2001-05-25
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APPLICATION NUMBER: 09/880,748 FILING DATE: 2001-06-15 APPLICATION NUMBER: 60/293,499
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APPLICATION NUMBER: 60/240,816
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NOS: 3247
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82.4%;
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Pred. No.
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Pred. No.
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0.035;
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0.035;
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PRIOR FILING DATE: 2001-05-25
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR FILING DATE: 2001-03-21
PRIOR FILING DATE: 2001-03-21
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-10-17
PRIOR PRICING DATE: 2000-6-16
NUMBER OF SEQ ID NUMBER: 60/212,210
PRIOR FILING DATE: 2000-6-16
NUMBER OF SEQ ID NOS: 3247
SEQ ID NO 2039
LENGTH: 237
TYPE: PRT
ORGANISM: Homo sapiens
US-10-293-418-2039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/880,748
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-15
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR PILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR APPLICATION NUMBER: 60/293,499
PRIOR APPLICATION NUMBER: 60/293,499
PRIOR FILING DATE: 2001-05-25
NUMBER OF SEQ ID NOS: 3239
SOFTWARE: PACENTIN VET: 2.0
SEQ ID NO 1905
LENGTH: 240
TYPE: 007
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US-09-880-748-1905
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US-09-880-748-1905
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US-10-293-418-1905
Sequence 1905, Application US/10293418
Publication No. US20030223998A1
GENERAL INFORMATION:
APPLICANT: Ruben et al.
TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PFS23P2
CURRENT APPLICATION NUMBER: US/10/293,418
CURRENT FILING DATE: 2002-11-27
PRIOR APPLICATION NUMBER: 60/331,469
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Best Local :
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TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523
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TYPE: PRT
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Local Similarity 82.4%;
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82.4%; Pred. No. 0.
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RESULT 16 US-10-460-471-31

Sequence 31, Application US/10460471 Publication No. US20030206900A1 GENERAL INFORMATION:

APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANDRE
APPLICANT: BUTTIN, GERARD

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                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
US-10-447-331-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: Homo sapiens
US-10-293-418-1905
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                                                                                                                                                                                          PRIOR FILING DATE: 1999-03-01
NUMBER OF SEQ ID NOS: 6
SOFTWARE: FASESEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 4, Application US/10447331 Publication No. US20030219434A1 GENERAL INFORMATION:
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SEQ ID NO 1905
LENGTH: 240
                                                                                     Query Match
Best Local Similarity
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Best Local Similarity
                                                                                                                                                                                                                                                                             APPLICANT: Carter, Paul J.
APPLICANT: Ridgway, John B.
TITLE OF INVENTION: ANTIBODIES FOR CANCER THERAPY AND
TITLE OF INVENTION: DIAGNOSIS
FILE REFERENCE: GENENT.122A
CURRENT APPLICATION NUMBER: US/10/447,331
CURRENT FILING DATE: 2003-05-28
PRIOR APPLICATION NUMBER: US/09/515,825
PRIOR APPLICATION NUMBER: 60/122262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-16
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R APPLICATION NUMBER: 60/293,499

R FILING DATE: 2001-05-25

R APPLICATION NUMBER: 60/277,379

R FILING DATE: 2001-03-21

R APPLICATION NUMBER: 60/276,248
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RAPPLICATION NUMBER: 60/340,817
RFILING DATE: 2001-12-19
RFILING DATE: 09/880,748
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51 INSGGSYTYYSDSVKG 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             50 YISSSGSTTYYADSVKG
                                                                      14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 YISSGGSGTYYSDSVKG 17
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                                   2 ISSGGSGTYYSDSVKG 17
                                                                                     78.7%;
87.5%;
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Pred. No.
                                                                                     Score 70; DB 14
Pred. No. 0.034;
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                                                                      Mismatches
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0.036;
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US-10-460-471-19
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; OTHER INFORMATION: SYNTHETIC PEPTIDE
US-10-460-471-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: SYNTHETIC PEPTIDE US-10-460-471-31
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 31
                                                                                Matches
                                                                                                Query Match
Best Local
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SEQ ID NO 19
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CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF TEXT TO NUMBER: PCT/FR98/01740
                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANI
APPLICANT: BUTTIN, GERARD
APPLICANT: AVRAMEAS, STRAIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: ZIPETO, DÓNATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
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                                     1 YISSGGSGTYYSDSVKG 17
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Similarity 76.5%;
                                                                                                  Similarity
YISRGGVSTYYSDTVKG 19
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COUDERC, THERESA
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COUDERC, THERESA
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                                                                              Conservative
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                                                                                                77.5%;
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                                                                                                  Score 69; I
Pred. No. 0
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                                                                                Mismatches
                                                                                                DB 14;
0.0083;
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APPLICANT: COUDERC, THERESA
APPLICANT: COUDERC, THERESA
APPLICANT: MICHELSON, SUSAN
APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR FILING DATE: 2000-02-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; OTHER INFORMATION: SYNTHETIC PEPTIDE US-10-460-471-4
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NUMBER OF SEQ ID NOS: 36
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
                                                                                                SOFTWARE: P
                                                                                                                                APPLICANT: BLONDEL, BRUNO
APPLICANT: COUDERC, THERESA
APPLICANT: MICHELSON, SUSAN
APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO (
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR PILICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
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Best Local Similarity
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ORGANISM: Artificial Sequence
FEATURE:
                 FEATURE:
                                                       TYPE: PRT
OTHER INFORMATION: SYNTHETIC PEPTIDE
                                      ORGANISM: Artificial Sequence
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                                                                                                                     PatentIn version 3.1
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Pred. No. 0.0087
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APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/9/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
SOFTWARE: PatentIn version 3.1
SEQ ID NO 7
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                                                                                                                                                            CURRENT APPLICATION NUMBER: US/10/144,549
CURRENT FILING DATE: 2002-05-13
NUMBER OF SEQ ID NOS: 31
SOPTWARE: Patentin version 3.1
SEQ ID NO 21
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
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                                                                                                                                                                                                                                                          APPLICANT: Hwu , Paul L.
TITLE OF INVENTION: A NEW FUSION PROTEIN FOR USE AS VECTOR
FILE REFERENCE: MBHB 02-340
                                                                                                                                                                                                                                                                                                  APPLICANT: GeneShuttle Biopharm, Inc. APPLICANT: Hwu , Paul L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-460-471-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
NAME/KEY: MISC FEATURE
OTHER INFORMATION: Synthetic membrane fusion sequence
                                                                                             TYPE: PRT ORGANISM: Artificial Sequence
                                                           FEATURE: OTHER INFORMATION: Membrane fusion sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: SYNTHETIC PEPTIDE
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COUDERC, THERESA
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0.012;
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US-10-374-035-4
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                                   SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                            Sequence 4, Application US/10374035
Publication No. US20030219378A1
GENERAL INFORMATION:
APPLICANT: Washington University, St. Louis
APPLICANT: Piwnica-Worms, David
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Best Local S
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Publication No.
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Best Local Similarity
                                                                                              PRIOR FILING DATE: 1999-06-18
PRIOR APPLICATION NUMBER: US 60/090,087
PRIOR FILING DATE: 1998-06-20
                                                                                                                                                                                                                                    CURRENT FILING DATE: 2003-02-25
PRIOR APPLICATION NUMBER: US 10/368,280
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                                                                             NUMBER OF SEQ ID NOS:
                                                                                                                                                    PRIOR FILING DATE: 2003-02-18
PRIOR APPLICATION NUMBER: US 09/557,465
PRIOR FILING DATE: 2000-04-25
PRIOR APPLICATION NUMBER: US 09/336,093
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SOFTWARE: PatentIn version 3.1
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                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/10/374,035
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OTHER INFORMATION: Peptide derivable from the heavy chain variable region of an anti
OTHER INFORMATION: -DNA monoclonal antibody
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TYPE: PRT
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                    ENGTH:
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                                                        PatentIn
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No. US20030219375A1
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Pred. No.
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US-10-374-035-4
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APPLICANT: TERNYNCK, THERESA
APPLICANT: AVEAMEAS, ALEXANDR
APPLICANT: BUTTIN, GERARD
APPLICANT: AVEAMEAS, STRAITIS
APPLICANT: SAVEAN, MARIE-FRANC
APPLICANT: BLONDEL, BRUNO
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CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 9
LENGTH: 31
TYPE: PRT
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Best Local
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Publication No. US20030206900A1
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APPLICANT: BLONDEL, BRUNO
APPLICANT: COUDERC, THERESA
APPLICANT: MICHELSON, SUSAN
APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
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APPLICANT: AVRAMEAS, ALEXANI
APPLICANT: BUTTIN, GERARD
APPLICANT: AVRAMEAS, STRAIT
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APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-OXCONT
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OTHER INFORMATION: SYNTHETIC PEPTIDE
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                                                                                                                                              AVRAMEAS, STRAITIS SARON, MARIE-FRANCOISE
                                                                                                                                                                                     AVRAMEAS, ALEXANDRE BUTTIN, GERARD
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COUDERC, THERESA
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76.5%;
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1; Mismatches
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Pred. No. 0.012;
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US-10-460-471-26
Sequence 26, Application US/10460471
Publication No. US20030206900A1
GENERAL INFORMATION:
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Matches
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Best Local :
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Best Local
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APPLICANT: COUDERC, THERESA
APPLICANT: MICHELSON, SUSAN
APPLICANT: ZIPETO, DONATO
TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO CF
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
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PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: PCT/FR98/01740
PRIOR FILING DATE: 1998-08-04
NUMBER OF SEQ ID NOS: 36
APPLICANT: TERNYNCK, THERESA
APPLICANT: AVRAMEAS, ALEXANI
APPLICANT: BUTTIN, GERARD
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NUMBER OF SEQ ID NOS: 36
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PRIOR APPLICATION NUMBER: PCT/FR98/01740
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Pred. No.
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Pred. No.
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RESULT 29
US-10-006-773-4
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US-09-892-613C-2
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                                                                                                          Sequence 4, Application US/10006773
Publication No. US20020132983A1
GENERAL INFORMATION:
APPLICANT: Junghane, Richard P.
TITLE OF INVENTION: Antibodies as Chimeric Effector Cell Receptors Against Tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/892,613C
CURRENT FILING DATE: 2001-06-27
NUMBER OF SEQ ID NOS: 32
SOPTWARE: Patentin version 3.1
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2, Application US/09892613C Publication No. US20030040606A1 GENERAL INFORMATION:
APPLICANT: Leung, Shawn Shui-on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn version 3.1
SEQ ID NO 26
LENGTH: 107
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TITLE OF INVENTION: VECTOR DERIVED FROM ANTIBODIES FOR TRANSFERRING SUBSTANCES INTO
FILE REFERENCE: 0660-0166-0XCONT
CURRENT APPLICATION NUMBER: US/10/460,471
CURRENT FILING DATE: 2003-06-13
PRIOR APPLICATION NUMBER: US/09/497,997C
PRIOR PELING DATE: 2000-02-04
PRIOR PILING DATE: 2000-02-04
PRIOR PILING DATE: 2000-03-04
PRIOR PILING DATE: 1998-08-04
                FILE REFERENCE: 003
CURRENT APPLICATION NUMBER: US/10/006,773
CURRENT FILING DATE: 2001-12-10
PRIOR APPLICATION NUMBER: 60/250,089
PRIOR FILING DATE: 2000-11-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Leung, Shawn Shui-on
TITLE OF INVENTION: REDUCING IMMUNOGENICITIES OF IMMUNOGLOBULINS BY FRAMEWORK-PATCHIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE: 655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 36
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TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Chimaera
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SEQ ID NOS:
                                                                                                                                                                                                                                                                                          YISSGGGTTYYPDTVKG
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GENERAL INFORMATION:
APPLICANT. ...
                                                                                                Sequence 26, Application US/10275180A Publication No. US20030190687A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn version 3.0 SEQ ID NO 26 LENGTH: 17
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SEQ ID NO 4
LENGTH: 140
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                    APPLICANT:
                                                                                   APPLICANT: The UAB Research Foundation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: PCT/US01/14151
PRIOR FILING DATE: 2001-05-02
PRIOR APPLICATION NUMBER: 60/201,344
PRIOR FILING DATE: 2000-05-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: 60/391,478
PRIOR FILING DATE: 2002-06-24
PRIOR APPLICATION NUMBER: 60/346,402
PRIOR FILING DATE: 2001-11-01
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                      APPLICANT:
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ORGANISM: Mus
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                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
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ICHIKAWA, KIMIHIBA
KIMDERIY, ROBERT P.
KOODMAN, WIlliam J.
VENTION: AN ANTIBODY SELECTIVE FOR A TUMOR NECROSIS FACTOR-RELATED APOPTOSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LoBuglio, Albert S. Buchsbaum, Donald J
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Kimberly, Robert P
                                                                  Zhou, Tong
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William J.
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87.5%;
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87.5%;
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Pred. No.
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Pred. No.
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TITLE OF INVENTION: AN

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FILE OF INVENTION: INDUCING LIGAND RECEPTOR AND USES THEREOF; PILE REFERENCE: 21085.0029U5; CURRENT APPLICATION NUMBER: US/10/275,180A; CURRENT FILING DATE: 2002-10-31; NUMBER OF SEQ ID NOS: 102; SOFTWARE: PatentIn version 3.0; SEQ ID NO 26; LENGTH: 17 TYPE: PRT ORGANISM: Artificial Sequence; COTHER TEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Zhou, Tong
APPLICANT: Kimberly, Robert P.
APPLICANT: Koopman, William J.
APPLICANT: Koopman, William J.
APPLICANT: Koopman, William J.
APPLICANT: LoBuglio, Albert S.
APPLICANT: Buchsbaum, Donald J.
TITLE OF INVENTION: AN ANTIBODY SELECTIVE FOR A TUMOR NECROSIS FACTOR-RELATED TITLE OF INVENTION: APOPTOSIS-INDUCING LIGAND RECEPTOR AND USES THEREOF FILE REPERENCE: 21085.0029U7
CURRENT APPLICATION NUMBER: US/10/286,132A
CURRENT FILING DATE: 2003-01-22
PRIOR APPLICATION NUMBER: US 60/346,402
PRIOR FILING DATE: 2001-11-01
PRIOR APPLICATION NUMBER: US 60/346,402
PRIOR FILING DATE: 2001-05-02
PRIOR FILING DATE: 2001-05-02
PRIOR FILING DATE: 2000-05-02
NUMBER OF SEQ ID NOS: 102
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US-10-477-377-9
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US-10-286-132A-26
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Sequence 9, Application US/10477377

Sequence 9, Application No. US20040213788A1

GENERAL INFORMATION:

APPLICANT: Sweet, Raymond

APPLICANT: Tornetta, Mark

APPLICANT: Wattam, Trevor

TITLE OF INVENTION: Anti-RANK Ligand Monoclonal Antibodies
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Best Local 9
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87.5%;
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87.5%; Pred. No. 0.0093;
tive 0; Mismatches 2; Indels
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Pred. No.
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RESULT 35 US-10-766-773-53

Sequence 53, Application US/10766773
Publication No. US20040126851A1
GENERAL INFORMATION:

APPLICANT: LaRosa, G APPLICANT: Horvath,

Gregory J. h, Christopher

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APPLICANT: HOTVATH, Christopher
APPLICANT: Howman, Walter
APPLICANT: Homes, S. Tarran
APPLICANT: O'Brien, Siobhan H.
APPLICANT: O'Keefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES AND
TITLE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1855.1052-012
CURRENT APPLICATION NUMBER: US/09/840,459
CURRENT FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: PCT/US01/03537
PRIOR APPLICATION NUMBER: PCT/US01/03537
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                                                                                                                                                                                                                                                                             PRIOR FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR FILING DATE: 2000-02-03
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR FILING DATE: 1999-07-22
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
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Best Local S
Matches 14
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SOPTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 53
LENGTH: 87
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GENERAL INFORMATION:
APPLICANT: LAROBA, Gregor
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                                                                        Matches
                                                                                        Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR FILING DATE: 2001-05-18
NUMBER OF SEQ ID NOS: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 17
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                    ORGANISM: Mus musculus
                                                                                                                                                                                       TYPE: PRT
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Local Similarity 87.5%;
les 14; Conservative
39
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                 1 YISSGGSGTYYSDSVKG 17
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                                                                                         Similarity
YISNGGGSTYYPDTVKG
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                                                                          Conservative
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                                                                                        76.4%;
55
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                                                                                         Score 68; DB 9;
Pred. No. 0.047;
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Pred. No.
                                                                          Mismatches
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                                                                                                             DB 9;
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APPLICANT: LARGEA, Gregory J.
APPLICANT: Horvath, Christopher
APPLICANT: Newman, Walter
APPLICANT: O'Brien, Siobhan H.
APPLICANT: O'Brien, Siobhan H.
APPLICANT: O'Keefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES AND
TITLE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1855.1052-029
CURRENT APPLICATION UNMBER: US/10/766,610
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: 09/840,459
PRIOR APPLICATION NUMBER: 09/840,459
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/197,625
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION DATE: 1998-07-23
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APPLICANT: Ornes, S. Tarran
APPLICANT: Ornes, S. Tarran
APPLICANT: O'Reien, Siobhan H.
APPLICANT: O'Reien, Siobhan H.
APPLICANT: O'Reefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES AND
TITLE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1855.1052-028
CURRENT APPLICATION NUMBER: US/10/766,773
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR FILING DATE: 2000-02-03
PRIOR FILING DATE: 1999-07-23
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
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US-10-766-610-53
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US-10-766-773-53
                                                                                                                                                                                                      US-10-766-610-53
                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 107
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 53
LENGTH: 87
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Best Local Similarity 70.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 106
SOFTWARE: FREUSEQ for Windows Version 3.0
SEQ ID NO 53
LENGTH: 87
                                                                                                                             Best
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                                                                                                                          Local Similarity
  39
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                                               1 YISSGGSGTYYSDSVKG 17
YISNGGGSTYYPDTVKG 55
                                                                                                   Conservative
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Pred. No. 0
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Pred. No.
                                                                                                   Mismatches
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                                                                                                                                               DB 16;
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                                                                                                   3; Indels
                                                                                                                                               Length 87
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CURRENT APPLICATION NUMBER: US/10/733,563
CURRENT FILING DATE: 2003-12-10
PRIOR APPLICATION NUMBER: US 10/272,899
PRIOR FILING DATE: 2002-00-17
PRIOR APPLICATION NUMBER: US 60/392,364
PRIOR FILING DATE: 2002-06-26
PRIOR FILING DATE: 2001-0-19
NUMBER: US 60/350,166
PRIOR FILING DATE: 2001-10-19
NUMBER OF SEQ ID NOS: 122
SCOTMARE: PASESEQ for Windows Version 4.0
SEQ ID NO 53
LENGTH: 87
TYPE: PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Newman, Walter
APPLICANT: Oones, S. Tarran
APPLICANT: O'Srien, Slobhan H.
APPLICANT: O'Keefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES ANT
TITLE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1855.1052-012
CURRENT APPLICATION NUMBER: US/09/840,459
CURRENT FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR FILING DATE: 2001-02-03
PRIOR FILING DATE: 2001-02-03
PRIOR FILING DATE: 2001-02-03
PRIOR APPLICATION NUMBER: 09/359,193
                                                                                                                                                                                        ; ORGANISM: Mus musculus 
US-09-840-459-49
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Publication No. US20040151721A1

GENERAL INFORMATION:
APPLICANT: O'Keefe, Thereba
APPLICANT: Ponath, Paul
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES AND
TITLE OF INVENTION: HUMANIZED OF USE THEREOF
FILE REFERENCE: 10448-213001
                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 107
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 49
Query Match 76.4%;
Best Local Similarity 87.5%;
Matches 14; Conservative
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Patent No. US20020150576A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
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APPLICANT: Newman, Walter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: LaRosa, Gregory J
                                                                                                                                                                                                                                                                            TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Mus musculus
                                                                                                                                                                                                                                                                                                                                        LENGTH: 89
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<u>,</u>
Score 68; DB 9;
Pred. No. 0.048;
0; Mismatches
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Pred. No.
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                                                                                         Length 89
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ISSGGSGTYYSDSVKG 17

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CURRENT APPLICATION NUMBER: US/10/766,773
CURRENT FILING DATE: 2004-01-27
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR FILING DATE: 2000-02-03
PRIOR FILING DATE: 1999-07-22
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
NUMBER OF SEQ ID NOS: 106
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 49
LENGTH: 89
TYPE: PAT
ORGANISM: Mus musculus
US-10-766-773-49
                                                                 Sequence 49, Application US/10766610
Publication No. US20040132980A1
GENERAL INFORMATION:
APPLICANT: LAROSA, Gregory J.
APPLICANT: Harosa, Gregory J.
APPLICANT: Horvath, Christopher
APPLICANT: Jones, S. Tarran
APPLICANT: Jones, S. Tarran
APPLICANT: O'Esten, Siobhan H.
APPLICANT: O'Keefe, Theresa
ITILE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1055.1052-029
CURRENT APPLICATION NUMBER: US/10/766,610
CURRENT APPLICATION NUMBER: 09/840,459
PRIOR APPLICATION NUMBER: PCT/US01/03537
PRIOR APPLICATION NUMBER: PCT/US01/03537
PRIOR APPLICATION NUMBER: PCT/US01/03537
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/497,625
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR APPLICATION NUMBER: 09/359,193
PRIOR FILING DATE: 2000-02-03
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-22
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
PRIOR APPLICATION NUMBER: 09/121,781
PRIOR FILING DATE: 1998-07-23
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US-10-766-773-49
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NUMBER OF SEQ ID NOS:
SOFTWARE: FastSEQ for
SEQ ID NO 49
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Best Local S
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APPLICANT: Horvath, Christopher
APPLICANT: Newman, Walter
APPLICANT: Jones, S. Tarran
APPLICANT: O'Brien, Siobhan H.
APPLICANT: O'Keefe, Theresa
TITLE OF INVENTION: HUMANIZED ANTI-CCR2 ANTIBODIES
TITLE OF INVENTION: METHODS OF USE THEREFOR
FILE REFERENCE: 1855, 1052-028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 ISSGSGTYYSDSVKG 17
|||||| ||| ||||
42 ISSGGSYTYYPDSVKG 57
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Job time : 33.8539 secs

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Post-processing: Minimum Match 0%
Maximum Match 100%
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2: pir2:*
3: pir3:*
4: pir4:*
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244.665 Million cell updates/sec
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Regult No.

Minimum Maximum

Searched:

sequence:

Database

## ALIGNMENTS

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RESULT 2
$21593

Ig heavy chain V region (10C5) - mouse
C; Species: Mus musculus (house mouse)
C; Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 23-Jul-1999
C; Accession: $21593
R; Kaartinen, M.
submitted to the EMBL Data Library, May 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ig heavy chain V region (clone 163-cl) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 16-Aug-1996
C;Accession: PH1007
R;Tillman, D.M.; Jou, N.T.; Hill, R.J.; Marion, T.N.
J. Exp. Med. 176, 761-779, 1992
A;Tille: Both IgM and IgG anti-DNA antibodies are the products of clonally selective B.A;Reference number: PH0971; MUID:92381444; PMID:1512540
A;Accession: PH1007
A;Status: nucleic acid sequence not shown
A;Molecule type: mRNA
A;Residues: 1-111 <TIL>
A;Experimental source: B cell, strain [NZB x NZW]F1
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin homology <IMM>
F;15-98/Domain: immunoglobulin homology <IMM>
                                                                                                                                                             A;Reference number: S21591
A;Accession: S21593
A;Accession: S21593
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-83 <KAA>
A;Residues: 1-83 <KAA>
A;Cross-references: EMBL:X66457; NID:g51598; PIDN:CAA47072.1; PID:g51599
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
                                                                                 Query Match
Best Local S
Matches 13
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Best Local S
Matches 14
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species: Mus musculus (house mouse)
spacies: 30-sep-1993 #sequence_revision 30-sep-1993 #text_change 16-Aug-1996
Accession: PH1007
20
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                      1 YISSGGSGTYYSDSVKG
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76.5%;
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82.4%;
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                                                                                                        Score 71;
Pred. No.
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0.00056;
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Ig heavy chain precursor V region (345) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1990 #sequence_revision 30-Jun-1990 #text_change 09-Jul-2004
C;Accession: JT0502
R;Levy, N.S.; Malipiero, U.V.; Lebecque, S.G.; Gearhart, P.J.
J. Exp. Med. 169, 2007-2019, 189
A;Title: Early onset of somatic mutation in immunoglobulin VH genes during the page of the page of somatic mutation in immunoglobulin VH genes during the page of the page of somatic mutation in immunoglobulin VH genes during the page of the page
Ig heavy chain V region (BFL14) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 16-Aug-1988 #sequence_revision 16-Aug-1988 #text_change 09-Jul-2004
C;Accession: C25913
R;Lawler, A.M.; Lin, P.S.; Gearhart, P.J.
Proc. Natl. Acad. Sci. U.S.A. 84, 2454-2458, 1987
A;Title: Adult B-cell repertoire is biased toward two heavy-chain variable-region genes
A;Reference number: A94148; MUID:87175692; PMID:3104915
A;Accession: C25913
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C25913
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A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-113 <KAV>
A;Residues: 1-113 <KAV>
A;Cross-references: EMBL:X59107; NID:g51944; PIDN:CAA41833.1; PID:g51945
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;11-94/Domain: immunoglobulin homology <IMM>
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submitted to the EMBL Data Library, April 1991
A;Reference number: S26459
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C;Species: Mus musculus (house mouse)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 23-Jul-1999
C;Accession: S26468
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Best Local S
Matches 13
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76.5%;
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Pred. No. 0.0017;
1; Mismatches
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A;Molecule type: DNA
A;Residues: 1-83 <LAM>
A;Residues: 10-81 <LAM>
A;Cross-references: UNIPROT:Q920E7
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
                                                                                                                      A;Status: preliminary
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residuss: 1-102 <CHE>
A;Cross-references: EMBL:X58653; NID:g51295; PIDN:CAA41510.1; PID:g51296
A;Cross-references: EMBL:X58653; NID:g51295; immunoglobulin homology
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
E;7-90/Domain: immunoglobulin homology <IMM>
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S14581
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A; Accession: S14581
                                                                                                                                                                                                                                                               R;Chen, Q.; Stenzel-Poore, M.; Rittenberg, M.B. submitted to the EMBL Data Library, March 1991 A;Description: Natural polyreactive antibodies
                                                                                                                                                                                                                                                                                                             Ig heavy chain V region - mouse
C;Species: Mus musculus (house mouse)
C;Date: 20-Feb-1995 #sequence_revision
C;Accession: S14581
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A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-94 <CHE>
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 ISSGGSYTYYPDSVKG
                               ISSGGSGTYYSDSVKG 17
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                                                           Conservative
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                                                           Score 68; DB
Pred. No. 0.00
0; Mismatches
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0; Mismatches
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0; Mismatches
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0.0037;
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                                                                                          Length 102
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RESULT PH1008

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Mon Dec

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A;Residues: 1-108 <STE>
A;Cross-references: EMBL:X67072; NID:g38401; PIDN:CAA47457.1; PID:g38402
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;11-94/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ig heavy chain V region (N54P3-D-JH4) - human C;Species: Homo sapiens (man) C;Date: 19-Feb-1994 #sequence_revision 10-Nov-1995 #text_change C;Accession: $24251 R;Stewart, A.K.; Huang, C.; Stollar, B.D.; Schwartz, R.S. submitted to the EMBL Data Library, June 1992 A;Description: A single VH gene predominates in the rearranged a A;Reference number: $24247 A;Accession: $24251
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c;Species: Mus musculus (house mouse)
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change
C;Accession: PH1008
R;Tillman, D.M.; Jou, N.T.; Hill, R.J.; Marion, T.N.
J. Exp. Med. 176, 761-779, 1992
A;Title: Both IgM and IgG anti-DNA antibodies are the products
A;Reference number: PH0971; MUID:92381444; PMID:1512540
A;Accession: PH1008
                                                                                                C;Accession: PH1010
R;Tillman, D.M.; Jou, N.T.; Hill, R.J.; Marion, T.N.
J. Exp. Med. 176, 761-779, 1992
A;Title: Both IgM and IgG anti-DNA antibodies are the products of clonally selective B A;Reference number: PH0971; MUID:92381444; PMID:1512540
A;Accession: PH1010
A;Accession: pH1010
A;Status: nucleic acid sequence not shown
A;Residues: 1-108 <TIL>
A;Experimental source: B cell, strain [NZB x NZW]F1 c;Superfamily: immunoglobulin V region; immunoglobulin C;Keywords: heterotetramer; immunoglobulin C;Keywords: heterotetramer; demunoglobulin F;15-97/Domain: immunoglobulin homology <IMM>
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                                                                                                                                                                                                                                                                                                                                  Ig heavy chain V region (clone 17s.93) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 16-Aug-1996
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{Species: Mus musculus (house mouse)
}Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 16-Aug-1996
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Local Similarity 70.6%;
nes 12; Conservative
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Pred. No. 0.0042;
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A; Molecule type: mRNA
A; Residues: 1-118 <SCH>
A; Residues: 1-118 <SCH>
C; Superfamily: immunoglobulin V region; immuno
C; Keywords: heterotetramer; immunoglobulin
C; Keywords: heterotetramer; immunoglobulin
F; 15-98 / Domain: immunoglobulin homology < IMN>
F; 11-33 / Region: complementarity-determining 1
F; 50-66 / Region: complementarity-determining 2
F; 99-105 / Region: complementarity-determining 3
                                                                                                                                                                                                                                                                                                                              Ig heavy chain V region (anti-cyclosporin B) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 15-Jan-1993 #sequence_revision 15-Jan-1993 #text_change 16-Aug-1996
C;Accession: PH0097
R;Schmitter, D.; Poch, O.; Zeder, G.; Heinrich, G.F.; Kocher, H.P.; Quesniaux, V.F.J.;
Mol. Immunol. 27, 1029-1038, 1990
A;Title: Analysis of the structural diversity of monoclonal antibodies to cyclosporine.
A;Reference number: PH0087; MUID:91042649; PMID:2122240
A;Accession: PH0097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Accession: JT0505
R;Levy, N.S.; Malipiero, U.V.; Lebecque, S.G.; Gearhart, P.J.
J. Exp. Med. 169, 2007-2019, 1989
A;Title: Barly onset of somatic mutation in immunoglobulin VH genes during the primary in A;Reference number: JT0501; MUID:89279149; PMID:2499654
A;Accession: JT0505
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HVMS84
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A,Note: this sequence belongs to the VH7183 subfamily
C,Superfamily: immunoglobulin V region; immunoglobulin
C,Keywords: heterotetramer; immunoglobulin
C,Keywords: heterotetramer; immunoglobulin
C,Teybomain: signal sequence #status predicted <SIGs
F,1-19/Domain: immunoglobulin V region (5-84) #stat
F,34-117/Domain: immunoglobulin homology <IMM>
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C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1990 #sequence_revision 30-Jun-1990 #text_change
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Matches 14
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                                     ISSGGSGTYYSDSVKG 17
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87.5%;
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87.5%;
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Pred. No. 0.
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RESULT F27888

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A;Title: Comprehensive epitope analysis of monoclutations in the variable region genes.
A;Reference number: S55528; MUID:95239763; PMID:7A;Accession: S55536
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-120 <BOES
A;Cross-references: EMBL:X82589; NID:g854304; PII
A;Cross-references: EMBL:X82589; NID:g854304; PII
C;Superfamily: immunoglobulin V region; immunoglo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ig heavy chain V region pe21 - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 27-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 23-Jul-1999
C;Accession: S55537
R;Boettger, V; Boettger, A.; Lane, E.B.; Spruce, B.A.
J. Mol. Biol. 247, 932-946, 1995
A;Title: Comprehensive epitope analysis of monoclonal anti-proenkephalin antibodies usin the variable region genes.
A;Reference number: S55528; MUID:95239763; PMID:7536850
A;Accession: S55528; MUID:95239763; PMID:7536850
A;Accession: S55537
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-120 <BOE>
A;Residues: 1-120 <BOE>
A;Residues: RMRI.X82590: NID:9854306; PIDN:CAA57926.1; PID:9854307
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EMBO J. 5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Experimental source: strain Balb/c
A; Experimental source: strain Balb/c
A; Note: this sequence was determined from the germline gene
C; Comment: This chain was isolated from a hybridoma protein that
C; Superfamily: immunoglobulin V region; immunoglobulin homology
C; Keywords: heterotetramer; immunoglobulin
F; 15-98/Domain: immunoglobulin homology < IMM>
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C;Species: Mus musculus (house mouse)
C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
                                                                                                                                                                                                                           Ig heavy chain V region pe20 - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 27-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 23-Jul-1999
C;Accession: S55536
R;Boettger, V.; Boettger, A.; Lane, E.B.; Spruce, B.A.
J. Mol. Biol. 247, 932-946, 1995
                                                                                                                                                                                                                                                                                                                                                                                   RESULT 15
S55536
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A; Residues: 1-119 < CAT>
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87.5%; Pred. No.
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Ig heavy chain V region (anti-DNA, DP12VH) - mouse (fragment)
C.Species: Mus musculus (house mouse)
C.Date: 16-Sep-1992 #sequence_revision 16-Sep-1992 #text_change 16-Aug-1996
C.Accession: PL0248
R.Shlomchik, M.; Mascelli, M.; Shan, H.; Radic, M.Z.; Pisetsky, D.; Marshak-Rothstei
J. Exp. Med. 171, 265-297, 1990
A.Title: Anti-DNA antibodies from autoimmune mice arise by clonal expansion and soma A;Reference number: PL0231; MUID:90111618; PMID:2104919
A;Reference number: PL0231; MUID:90111618; PMID:2104919
A;Residues: 1-108 <SHL>
C. Superfamily: immunoglobulin V region; immunoglobulin homology
C. Superfamily: immunoglobulin V region; immunoglobulin f;1-24/Region: framework 1
F;30-43/Region: complementarity-determining 1
F;30-43/Region: complementarity-determining 2
F.61-20/Denain: immunoglobulin complementarity-determining 2
F.61-20/Denain: framework 2
F.61-20/Denain: framework 2
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A;Experimental source: strain Balb/c
A;Note: this sequence was determined from the germline gene
C;Comment: This Cchain was isolated from a hybridoma protein that binds influenza virus
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
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E27888
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R;Caton, A.J.; Brownlee, G.G.; Staudt, L.M.; Gerhard, W.
EMBO J. 5, 1577-1587, 1986
A;Title: Structural and functional implications of a restricted A;Reference number: A91043; MUID:86300658; PMID:2427335
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                                                                                                                  F;61-92/Region: framework 3
F;93-99/Region: complementarity-determining
F;100-108/Region: framework 4
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A;Molecule type: DNA
A;Residues: 1-122 <CAT>
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C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
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Ig heavy chain V region precursor - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 29-Jan-1993 #sequence_revision 29-Jan-1993 #text_change 23-Jul-1999
                                                                                  C;Species: Homo sapiens (man)
C;Date: 1-Peb-1994 #sequence_revision 10-Nov-1995 #text_change 23-Jul-1999
C;Accession: S24252
R;Stewart, A.K.; Huang, C.; Stollar, B.D.; Schwartz, R.S.
submitted to the EMBL Data Library, June 1992
A;Description: A single VH gene predominates in the rearranged and expresse.
A;Reference number: S24247
A;Accession: S24252
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A; Residues: 1-138 < HAM>
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A;Title: Nucleotide sequences of the variable regions of a mouse monoclonal antibody MRI
A;Reference number: S09258; MUID:90245594; PMID:2110659
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R;Hamada, H.; Maezawa, K.; Tsuruo,
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A;Molecule type: DNA
A;Residues: 1-118 <LOS>
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                      A; Molecule type: DNA
A; Residues: 1-97 <STE>
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                                                               A; Status: preliminary
    A;Cross-references:
                                                                                                                                                                                                                                          Ig heavy chain V region (N54P3-D-JH6) - human
C;Species: Homo sapiens (man)
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Best Local S
Matches 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;Species: Mus musculus (house mouse)
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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EMBL:X67073; NID:g38403; PIDN:CAA47458.1; PID:g38404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL: X51719; NID: g53207; PIDN: CAA36012.1; PID: g297545
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81.2%;
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Pred. No. 0.00
0; Mismatches
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Pred. No. 0.0066;
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; 0.0077;
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PH1652
Ig heavy chain V region
C;Species: Homo sapiens
C;Date: 24-Feb-1994 #seq
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Ig heavy chain V region (DP-35) - human (fragment)
C;Species: Homo sapiens (man)
C;Ante: 22-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 23-Jul-1999
C;Accession: $2630
R;Tomlinson, I.M.; Walter, G.; Marks, J.D.; Llewelyn, M.B.; Winter, G.
J. Mol. Biol. 227, 776-798, 1992
A;Title: The repertoire of human germline V(H) sequences reveals about fifty groups of A;Reference number: $26885; MUID:93021117; PMID:1404388
A;Accession: $26930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Tomlinson, I.M.; Walter, G.; Marks, J.D.; Llewelyn, M.B.; Winter, G.
J. Mol. Biol. 227, 776-798, 1992
A;Title: The reportoire of human germline V(H) sequences reveals about fifty groups of V.
A;Reference number: S26885; MUID:93021117; PMID:1404388
A;Accession: S26891
                                                                                                                                                                                                                                   A;Cross-references: EMBL:Z12337; NID:g32892; PIDN:CAA78207.1; PID:g32893 C;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin F;15-98/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:Z12358; NID:g32935; PIDN:CAA78228.1; PID:g32936 (?Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin C;Keywords: heterotetramer; immunoglobulin P;15-98/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-98 <TOM>
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C;Date: 22-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 23-Jul-1999
C;Accession: S26891
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A; Residues: 1-98 < TOM>
RESULT 23
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Best Local S
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Pred. No.
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Pred. No.
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#sequence\_revision

24-Feb-1994 #text\_change 16-Aug-1996

(man)

(clone 5D4) - human (fragment)

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C;Accession: PH1652
R;Hillson, J.L.; Karr, N.S.; Oppliger, I.R.; Mannik, M.; Sasso, E.H.
J. Exp. Med. 178, 331-336, 1993
A;Title: The structural basis of germline-encoded VH3 immunoglobulin binding to staphylc A;Reference number: PH1642; MUID:93301610; PMID:8315388
A;Reference number: PH1642; MUID:93301610; PMID:8315388
A;Residues: 1-10 <HIL>
A;Residues: 1-110 <HIL>
A;Residues: 1-10 <HIL>
A;Residues: 1-10 <HIL>
A;Residues: 1-10 <HIL>
A;Residues: 1-10 <HIL>
A;Experimental source: B cell
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                               Ig heavy chain (subclass IgM) - human (fragment)
c;Species: Homo sapiens (man)
C;Date: 22-Nov-1993 #sequence_revision 26-May-1995 #text_change 23-Jul-1999
C;Accession: S31105
R;Raaphorst, F.M.; Timmers, E.; Kenter, M.J.H.; van Tol, M.J.D.; Vossen, J.M.;
                                                                                                                                                                                            A;Status: preliminary; nucleic acid sequence not shown; translation A;Molecule type: mRNA A;Residues: 1-118 <RAA>
                                                                                                                                                                                                                                                                 Eur. J. Immunol. 22, 247-251, 1992

A;Title: Restricted utilization of germ-line V(H)3 genes and short diverse third complem A;Reference number: S31104; MUID:92111633; PMID:1730252

A;Accession: S31105
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C;Date: 02-Dec-1993 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C;Accession: S31120
R;Raaphorst, F.M.; Timmers, E.; Kenter, M.J.H.; van Tol, M.J.D.; Vossen, J.M.; Schuurman Eur. J. Immunol. 22, 247-251, 1992
                                                                         C;Superfamily: :
C;Keywords: hete
F;15-98/Domain:
                                                                                                                                              A;Cross-references: EMBL:X63081; NID:g32648; PIDN:CAA44803.1; PID:g32649
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, October 1991
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A;Molecule type: mRNA
A;Residues: 1-114 <RAA>
A;Cross-references: EMBL:X62972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eur. J. Immunol. 22, 247-251, 1992
A;Title: Restricted utilization of germ-line V(H)3 genes and
A;Reference number: S31104; MUID:92111633; PMID:1730252
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                                                                                           Superfamily: immunoglobulin V region; immunoglobulin homology; Keywords: heterotetramer; immunoglobulin
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                                                                       immunoglobulin homology <IMM>
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Pred. No. 0.0089;
1; Mismatches
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Pred. No. 0.0086;
1; Mismatches
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R;Sun, J.; Kacskovics, I.; Brown, J. Immunol. 153, 5618-5627, 1994 A;Title: Expressed swine VH genes

Ig heavy chain variable VDJ region - pig (fragment)
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 21-Feb-1997 #sequence\_revision 21-Feb-1997 #text\_change
C;Accession: I47193

W.R.; belong

Butler, J.E.

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Ig heavy chain V region (H36-2) - mouse C;Species: Mus musculus (house mouse) C;Apecies: Mus musculus (house mouse) C;Accession: D27889 #sequence_revision 15-Dec-1988 #text_change C;Accession: D27889 R;Caton, A.J.; Brownlee, G.G.; Staudt, L.M.; Gerhard, W. EMBO J. 5, 1577-1587, 1986 A;Title: Structural and functional implications of a restricted A;Reference number: A91043; MUID:86300658; PMID:2427335
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A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that binds influenza virus
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
RESULT
I47193
                                                                                                                                                                                                                                   A;Cross-references: EMBL:X61013; NID:g32798; PIDN:CAA43347.1; PID:g1335128 C;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin F;15-98/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                                                               R;Mortari, F.; Newton, J.A.; Wang, J.Y.; Schroeder Jr., H.W. Eur. J. Immunol. 22, 241-245, 1992
A;Title: The human cord blood antibody repertoire. Frequent usage A;Reference number: S26786; MUID:92111632; PMID:1730251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Homo sapiens (man)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change
C;Accession: S26790
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A; Residues: 1-128 < MOR>
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A; Residues: 1-119
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                                                                                                          YISSGGSGTYYSDSVKG 17
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Pred. No.
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A;Molecule type: DNA
A;Residues: 1-121 <CAT>
A;Residues: 1-121 <CAT>
A;Residues: 1-121 <CAT>
A;Residues: 1-121 <CAT>
A;Ropeximental source: strain Balb/c
A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that common the common of the common strain of the
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A;Molecule type: DNA
A;Residues: 1-118 </AM>
A;Residues: 1-118 </AM>
A;Cross-references: EMBL;Y00380; NID:g64810;
A;Cross-reference was determined from the
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A;Accession: I47193
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-137 <SUN>
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C;Species: Mus musculus (house mouse)
C;Date: 15-Dec_1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
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Nucletc Acide Ree. 15, 5888, 1987
A;Title: Nucleoride sequences of variable region segments of the immunoglobulin heavy ch
A;Reference number: S00700; MUID:87289054; PMID:3112743
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C;Species: Xenopus laevis (African clawed frog)
C;Date: 31-Dec-1988 #sequence_revision 31-Dec-1988 #text_change 23-Jul-1999
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C;Superfamily: immunoglobulin V region; immunoglobulin homology
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                                                                     Matches
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Best Local :
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75.0%;
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81.2%; Pred. No. 0.013;
tive 1; Mismatches
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Ig heavy chain (Mab03-1). - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Species: Nus musculus (house mouse)
C;Date: 29-Jul-1997 #sequence_revision 17-Sep-1997 #text_change 09-Jul-2004
C;Accession: S68213
R;Takagi, M.; Kohda, K.; Hamuro, T.; Harada, A.; Yamaguchi, H.; Kamachi, M.; Imanaka, T.
PEBS Lett. 375, 273-276, 1995
A;Title: Thermostable peroxidase activity with a recombinant antibody L chain-porphyrin
A;Reference number: S68211; MUID:96085223; PMID:7498516
A;Accession: S68213
A;Status: preliminary; nucleic acid sequence not shown
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A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
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C:Species: Mus musculus (house mouse)
C:Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
C:Accession: C27888
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S68213
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A;Molecule type: mRNA
A;Residues: 1-123 <VER>
A;Cross-references: GB:S81215; NID:g1336823; PIDN:AAB36172.1; PID:g1336824
C;Superfamily: immunoglobulin V region; immunoglobulin homology
F;15-98/Domain: immunoglobulin homology <IMM>
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J. Mol. Biol. 256, 364-376, 1996
A;Title: Induced pocket to accommodate the cell attachment Arg-Gly-Asp
A;Reference number: S63596; MUID:96174482; PMID:8594203
A;Accession: S63597
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S63597
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C27888
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C;Date: 28-Oct-1996 #sequence_revision 13-Mar-1997 #text_change
C;Accession: S63597
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A; Molecule type:
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Best Local S
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; Pred. No. 0.01
1; Mismatches
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Pred. No.
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0.014;
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Ig heavy chain V region (anti-DNA, H2F) - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 09-Oct-1992 #sequence_revision 09-Oct-1992 #text_change 09-Jul-2004
C;Accession: PH0875
R;Manheimer-Lory, A.; Katz, J.B.; Pillinger, M.; Ghossein, C.; Smith, A.; Diamond, B.
J. Exp. Med. 174, 1639-1652, 1991
A;Title: Molecular characteristics of antibodies bearing an anti-DNA-associated idiotype
A;Reference number: PH0862; MUID:92078875; PMID:1660528
A;Accession: PH0875
A;Molecule type: DNA
A;Residues: 1-97 < MANN
A;Residues: 1-97 < MANN
A;Cross-references: UNIPROT:Q9UL91
C;Comment: This antibody is produced by Epstein-Barr virus-transformed B cell that bears
C;Superfamily: immunoglobulin V region; immunoglobulin
F;14-97/Domain: immunoglobulin homology <IMMN
F;30-35/Region: complementarity-determining 1
F;49-66/Region: complementarity-determining 2
RESULT 36
HVMS96
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S38864
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C;Superfamily: immunoglobulin C region; immunoglobulin homology
F;353-421/Domain: immunoglobulin homology <IMM>
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A;Molecule type: mRNA
A;Residues: 1-548 <KIP>
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A;Description: Combination of a defined specificity and desired
A;Reference number: $38864
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C;Superfamily: immunoglobulin C region; immunoglobulin homology
F;137-201/Domain: immunoglobulin homology <IMM>
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C;Species: Mus musculus (house mouse)
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81.2%;
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70.6%;
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Pred. No.
                                                                                                                                                        Pred. No. 0.0:
1; Mismatches
                                                                                                                                                                        Score 64; DB 2;
Pred. No. 0.015;
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Pred. No. 0.059;
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Ig heavy chain V region (H220-25) - mouse
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-A
C;Accession: C27889
R;Caton, A.J.; Brownlee, G.G.; Staudt, L.M.; Gerhard, W.
EMBO J. 5, 1577-1587, 1986
A;Title: Structural and functional implications of a restricted antil
A;Reference number: A91043; MUID:86300658; PMID:2427335
A;Accession: C27889
A;Accession: C27889
A;Residues: 1-101 <CAT>
A;Experimental source: strain Balb/c
A;Experimental source: strain Balb/c
A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that binc
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Reywords: heterotetramer; immunoglobulin
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C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1990 #sequence_revision 30-Jun-1990 #text_change |
C;Accession: JTO501
R;Levy, N.S.; Malipiero, U.V.; Lebecque, S.G.; Gearhart, P.J.
J. Exp. Med. 169, 2007-2019, 1999
A;Title: Early onset of somatic mutation in immunoglobulin VH gel
A;Reference number: JTO501; MUID:89279149; PMID:2499654
A;Accession: JTO501
A;Status: translation not shown
A;Molecule type: mRNA
A;Residues: 1-98 <LEVy
A;Residues: 1-98 <LEVy
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A;Note: this sequence belongs to the VH7183 subfamily
C;Superfamily: immunoglobulin V region; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM'>
F;22-96/Disulfide bonds: #status predicted
                                                                                                           R;Caton, A.J.; Brownlee, G.G.; Staudt, L.M.; Gerhard, W. EMBO J. 5, 1577-1587, 1986
A;Title: Structural and functional implications of a restricted A;Reference number: A91043; MUID:86300658; PMID:2427335
A;Accession: B27889
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C27889
A;Experimental source: strain Balb/c A;Note: this sequence was determined from C;Comment: This chain was isolated from a
                                                                 A; Molecule type: DNA
A; Residues: 1-119 < CAT>
                                                                                                                                                                                                                          Ig heavy chain V region (H146-2483) - mouse C;Species: Mus musculus (house mouse) C;Date: 15-Dec.1988 #sequence_revision 15-De C;Accession: B27889
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B27889
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Matches 13
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A;Experimental source: strain Balb/c
A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that binds influenza virus
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
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A;Experimental source: strain Balb/c
A;Note: this sequence was determined from the germline gene
C;Comment: This chain was isolated from a hybridoma protein that binds influenza virus
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;15-98/Domain: immunoglobulin homology <IMM>
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C;Species: Mus musculus (house mouse)
C;Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 16-Aug-1996
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C;Species: Mus musculus (house mouse)
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mmunoglobulin heavy chain VHDJ 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AB091941; BAD00303.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AB091847; BAD00209.1;
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                                                                                                                                                                                                                                               ISSGGASTYYTDSVKG
                                                                                                                                                                                                                                                                            ISSGGSGTYYSDSVKG
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                                                                                                                                                                                                                                                                                                                                                                                                               127
127 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            127
127 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (TrEMBLrel. 27, Created)
(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                       (Mouse)
                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13172 MW;
  Chordata;
                                                                                                                                                                                                                                                                                                                                                78.7%;
81.2%;
                                                                                                                                                                                                                                                                                                                                                                                                               13452 MW;
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81.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        chain VHDJ region (Fragment).
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Pred. No. 0.0034;
                                                                                                                                                                                                                                                                                                                               Pred. No. 0.00
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                       Score 70;
    Craniata;
                                                                                                                                               PRT;
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annotation update)
region (Fragment).
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                                                             update)
    Vertebrata;
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    Euteleostomi;
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Best Local (
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Q920E7;
Q1-DEC-2001
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01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Pterin-mimicking anti-idiotope heavy chain variable
                                                                                                                                                         Pfam; PF00047; ig; 1.
SMART; SM00406; IGV; 1.
PROSITE; PS50835; IG_LIKE;
                                                                                                                                                                                                          PIR; C25913; C25913.
HSSP; P01783; 1IGC.
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                                                                    Atkin J.D., Iape A., Jennin Submitted (SEP-2000) to the EMBL; AF307937; AAL09421.1;
                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00047; ig; 1.
SMART; SM00406; IGv;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR; JT0505; HVMS84.
HSSP; P01810; 2FBJ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primary immune response.";
J. Exp. Med. 169:2007-2019(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- MISCELLANEOUS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Early onset of somatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=89279149; PubMed=2499654;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [mmunoglobulin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Fragment)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 YISSGGSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12;
   N
                                    14;
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                                                       Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YISNGGGSTYYPDTVKG
   ISSGSSTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eutheria;
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119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          117
117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (TrEMBLrel. 19, (TrEMBLrel. 19, (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
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41
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IG_LIKE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This sequence belongs to the VH7183 subfamily
                                                                                                           119
13025 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           49
54
68
85
117
                                                                                                                                                                                                                                                                                                                                                                                               Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12872 MW;
                                                   76.4%;
87.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      76.4%;
70.6%;
                                                                                                                                                                                                                                                                                                     Jennings I.G., Horaitis O., Cotton to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mutation
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Pred. No.
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By similari
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Complementarity-determining-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ig heavy chain V region 5-84. Framework-1. Complementarity-determining-1.
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                                                                                                            F6E904044381CA7C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vert
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          234055CB6A469861 CRC64;
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                                        Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chain variable
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                                                                                                                                                                                                                                                                                                                                                                                               Vertebrata; Euteleostomi;
chi; Muridae; Murinae; Mus
                                                                         DB 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 117;
                                                                       Length
                                                                                                                                                                                                                                                                                                                           Cotton R.G.H.;
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                                        Indels
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VH genes
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RESULT 6
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DT 02-M
DT 02-M
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RN [1]
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AAL35877;
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BAD00431;
                                                                                                                                                        SEQUENCE FROM N.A.

MEDILINE=22007448; PubMed=12009207;

Tanha J., Dubuc G., Hirama T., Narang S.A., MacKenzie C.R.;

Tanha J., Dubuc G., Hirama T., Narang S.A., MacKenzie C.R.;

"Selection by phage display of llama conventional V(H) fragments with heavy chain antibody V(H) properties.";

J. Immunol. Methods 263:97-109(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Libraries of heavy-chain antibodies reflecting gamma3 in vivo repertoires."; Submitted (SEP-2002) to the EMBL/GenBank/DDBJ da EMBL; AB092069; BAD00431.1; -.
                                                                                                                                                                                                                                                                               Lama glama (Llama).
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                       02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain variable domain (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
1mmunoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                    NCBI_TaxID=9844;
                                                                                                                                                                                                                                                                  Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9838;
                                                                                                                                                EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Spleen;
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51
                                                                                                                                              AF442946; AAL35877.1; -.
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                                                                Similarity
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INSGGGSTYYADSVKG
                         ISSGSSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                              INSGGSSTYYVDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ISSGGSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |||||| ||| |||||
| ISSGGSYTYYPDSVKG
                                                                                                      117
117 /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       116 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               75.3%;
llarity 81.2%;
Conservative
                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                      ξ.
                                                                                                                    117
                                                                                                                                                                                                                                                                Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Tylopoda; Camelidae; Lama.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12524 MW;
                                                              74.2%;
                                                                                                       12459 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kurosawa
66
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                                                  Score 66; DB 2;
Pred. No. 0.019;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 67; DB 2;
Pred. No. 0.013;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                             PRT;
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                                                                                                      08F5E4BA402F98D1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F9C289C9D17B7C58 CRC64;
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                                                                           Length 117;
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                                                                                                       CRC64;
                                                   Indels
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                                                  Gaps
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RESULT 8 BAD00231

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RESULT 10
BAD00233
ID BAD00
AC BAD00
DT 02-MADT 02-MADT 02-MADT 02-MADDT 02
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                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 12
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Best Local S
Matches 12
  BAD00233;
02-MAR-2004
02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                                                                                                       EMBL; ABO
NON_TER
NON_TER
SEQUENCE
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02-MAR-2004
02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                "Libraries of heavy-chain antibodies reflecting camel gamma3 in vivo repertoires "; Submitted (SEP-2002) to the EMBL/GenBank/DDBJ database EMBL; AB092093; BAD00455.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
TISSUE-Peripheral blood;
HONDA T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gagamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB091869; BAD00231.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Camelus dromedarius
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                BAD00233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IGVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BAD00455;
02-MAR-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunoglobulin heavy chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Honda T., Akahori Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Immunoglobulin heavy chain
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                                                                                                                                                                                                                                                                               Similarity
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                                                                                                                                                                               ISSGGSGTYYSDSVKG 17
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                                                                                                                                                                                                                                                                                                                                       122
122 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
120 AA;
  (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TrEMBLrel. 27, Created)
(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation update)
lin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TrEMBLrel.
                                                                                                                                                                                                                                                               Conservative
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                                                                                  PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                   122
; 13140 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Dromedary) (Arabian camel).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Dromedary) (Arabian camel).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            74.2%;
75.0%;
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                                                                                                                                                                                                                                                                             74.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kurosawa Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27, Created)
27, Last seguence update)
27, Last annotation update)
27, Last annotation update)
aain VHDJ region (Fragment)
    27,
27,
27,
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Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                               <u>ب</u>
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                                                                                                                                                                                                                                                           Score 66; DB Pred. No. 0.02 2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 66;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                           F89DDF2022218EC5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                  124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 122
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                                                                                                                                                                                                                                                                             DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2;
                                                                                  $
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                                                                                                                                                                                                                                                                                                                                                                                                                       databases.
                                                                                                                                                                                                                                                               2
                                                                                                                                                                                                                                                                                                  Length 122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                            gamma2
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                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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RESULT 12
BADO0420
ID BADO
AC BADO
AC BADO
DT 02-W
DT 02-W
DT 02-W
DT 1GWH
OS IGWH
OS Came
OC Euke
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BAD0025
ID BAD000
AC BAD00
A
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Best Local S
Matches 12
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Best Local
                                                                                                            02-MAR-2004
02-MAR-2004
02-MAR-2004
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02-MAR-2004
02-MAR-2004
                                                                                                                                                                         BAD00420
BAD00420;
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NON_TER
SEQUENCE
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BAD00225;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gamma3 in vivo repertoires.", Submitted (SEP-2002) to the IEMBL; AB091863; BAD00225.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-Peripheral blood;
Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases
EMBL; AB091871; BAD00233.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
TISSUE=Peripheral blood;
Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gamma2
      Eukaryota;
Mammalia;
                                              Camelus dromedarius
                                                                      IGVH.
                                                                                   O2-MAR-2004 (TrEMBLrel. 27, Created)
O2-MAR-2004 (TrEMBLrel. 27, Last sequence update)
O2-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gamma3
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Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IGVH.
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02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
1mmunoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Camelus dromedarius
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mmunoglobulin
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                                                                                                                                                                                                                                                                                                                                               N
                                                                                                                                                                                                                                                                                                                                                                                         12;
                                                                                                                                                                                                                                                                                                                                                                                      h 74.2%;
Similarity 75.0%;
12; Conservative
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                                                                                                                                                                                                                                                                                                     INSGGGSTYYADSVKG
                                                                                                                                                                                                                                                                                                                             ISSGGSGTYYSDSVKG
      ; Metazoa;
Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   124
124 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          126
126 /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Metazoa;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ΑA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 124
13374 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
(Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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2; Mismatches
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RESULT 14
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"Libraries of heavy-chain antibodies reflectingamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ EMBL, AB092058; BAD00420.1; -.
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02-MAR-2004 (TrEMBLrel. 27,
02-MAR-2004 (TrEMBLrel. 27,
11mmunoglobulin heavy chain V
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"Libraries of heavy-chain antibodies reflecting camel gogamma3 in vivo repertoires";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases
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Eukaryota; Metazoa;
Mammalia; Eutheria;
                                          SEQUENCE FROM N.A.
                                                                                                                                          Camelus dromedarius
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                TISSUE=Spleen;
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    Akahori Y.,
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128 AA;
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Cetartiodactyla; Tylopoda; Camelidae;
                                                                                                                       (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
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Eukaryota; Metazoa; C
Mammalia; Eutheria; C
NCBI_TaxID=9838;
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02-MAR-2004
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Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB092082; BAD00444.1; -.
NON TER 1 1 1
NON TER 1 1 1
SEQUENCE 128 AA; 13775 MW; 85E9EDD39D9159F3 CRC64;
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"Libraries of heavy-chain antibodies reflecting camel gamma2
gamma3 in vivo repertoires.";
Submitted (SBP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL, AB092306; BAD00668.1; -.
MON_TER
                                                      gamma3 in vivo repertoires.";
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Mammalia; Eutheria;
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                                                                                                                         Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies
                                                                                                                                                                                TISSUE-Spleen;
                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                       Camelus dromedarius
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02-MAR-2004 (TrEMBLrel. 27,
02-MAR-2004 (TrEMBLrel. 27,
Immunoglobulin heavy chain V
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   AB092132; BAD00494.1;
ER 1 1
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Chordata; Craniata; Vertebrata; Eutel
Cetartiodactyla; Tylopoda; Camelidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13634 MW;
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VHDJ region (Fragment).
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Pred. No. 0.027
2; Mismatches
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Pred. No. 0.02
2; Mismatches
                                                                EMBL/GenBank/DDBJ databases
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Tylopoda; Camelidae; Camelus
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A Peter J.C., Wallukat G., Tugler J., Maurice D., Roeger J.C.

A Briand J.P., Hoebeke J.;

I Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.

EMBL, AJ746180; CRG34081 1; -.

R InterPro; IPR003599; Ig.

InterPro; IPR003599; Ig.

InterPro; IPR003596; Ig_V.

InterPro; IPR003596; Ig_V.

Pfam; PF00047; ig; 2.

SR SMART; SM00409; IG; 2.

SR SMART; SM00406; IGV; 2.

SR SMART; SM00406; IGV; 2.

SR SMART; SM00406; IGV; 2.
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BAD00210;
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                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (Mouse)
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Submitted (SEP-2002) to the 1
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"Libraries of heavy-chain antibodies
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                   Tugler J., Maurice D., Roegel J.
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actyla; Tylopoda; Camel
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Matches 13
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P18528;
P18528;
01-NOV-1990 (Rel. 16, Created)
r 01-NOV-1990 (Rel. 16, Last sequence updat
T 10-OCT-2003 (Rel. 42, Last annotation up
T heavy chain V region 6.96.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peter J.C., Wallukat G., Tugler J., Maurice D. Briand J.P., Hoebbke J.;
"Modulation of the M2 muscarinic receptor action anti-M2 receptor antibody fragments.";
Submitted (JUN-2004) to the EMBL/GenBank/DDBJ EMBL; AJ746180; CAG34081.1; -.
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              PIR; JT0501; HVMS96.
HSSP; P01783; 1IGC.
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
                                                                                                 primary immune response.";

J. Exp. Med. 169:2007-2019(1989).

-!- MISCELLANEOUS: This sequence belongs to the VH7183

-!- SIMILARITY: Contains 1 immunoglobulin-like domain.
                                                                                                                                                                                  MEDLINE=89279149; PubMed=2499654; Levy N.S., Malipiero U.V., Lebecque "Early onset of somatic mutation in
                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
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Mammalia; Eutheria;
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PROSITE; PSS0835; IG LIKE; 1.
Immunoglobulin V region.
DOMAIN 1 >98 19
NON TER 98 98
SEQÜENCE 98 AA; 11007 MW; I
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02-MAR-2004
02-MAR-2004
02-MAR-2004
EMBL; AI
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NON_TER
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Submitted
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02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
100-MAR-2004 (TrEMBLrel. 27, Last annotation update)
100-MAR-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                              Honda T., Akahori Y., Kurosawa Y.; "Libraries of heavy-chain antibodies reflecting camel gamma2 gamma3 in vivo repertoires."; Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-MAR-2004 (TrEMBLrel. 27, 02-MAR-2004 (TrEMBLrel. 27, 02-MAR-2004 (TrEMBLrel. 27, Immunoglobulin heavy chain '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Camelus dromedarius (Dromedary) (Arabian camel).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                            TISSUE=Spleen;
Honda T., Akahori Y.,
                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                     Camelus dromedarius
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
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"Libraries of heavy-chain antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9838;
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                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                        Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rissum=spleen;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AB092157; BAD00519.1;
                                                                       AB092055; BAD00417.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vivo repertoires.";
(SEP-2002) to the EMBL/GenBank/DDBJ
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120 AA;
                                                                                                                                                                                                                                                                                                                                                                                     Metazoa;
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13036 MW;
                                                                                                                                                                                                                                                                                                                                                        (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Eutel
Cetartiodactyla; Tylopoda; Camelidae;
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81.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , Last sequence update)
, Last annotation update)
VHDU region (Fragment).
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Pred. No.
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Pred.
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RESULT 24
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Honda T., Akahori Y., Kurosawa Y.;
Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gamma2 gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB092112; BAD00474.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BAD00474;
                                                                                                                                                  Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gamma2 gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL, AB092041; BAD00403.1; -.
                                                                                                                                                                                                                                                                                                                                                      Camelus dromedarius
Eukaryota; Metazoa;
Mammalia; Eutheria;
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02-MAR-2004 (TrEMBLrel. 27,
02-MAR-2004 (TrEMBLrel. 27,
Immunoglobulin heavy chain V
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02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation)
                                                                                         SEQUENCE
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                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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128 AA;
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  Conservative
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13496 MW;
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13716 MW;
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Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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Chordata; Craniata; Vertebr
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75.0%;
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, Last annotation update)
VHDJ region (Fragment).
  Score 64; DB
Pred. No. 0.04
2; Mismatches
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Pred.
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Pred.
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                                                                                       69AB271259B0A2BF CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 65B6C5D18114730D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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RESULTU

HV3-LHU

ID 1-HV

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BAD00240
ID BAD000
AC BAD000
AC BAD000
AC BAD000
DT 02-MA
DT 02-M
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Best Local S
Matches 12
                                                         HSSP; P01772; 2FB4.

GO; GO:0005576; C:extracellular; NAS.
GO; GO:0003823; F:antigen binding; NAS.
GO; GO:0006955; P:immune response; NAS.
GO; GO:0006955; P:immune response; NAS.
InterPro; IPR007110; Ig-1ike.
InterPro; IPR003596; Ig_v.
Pfam; PF00047; Ig; 1.
SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 1.
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21-JUL-1986
21-JUL-1986
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02-MAR-2004
02-MAR-2004
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                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE-Peripheral blood;
Honda T., Akahori Y., Kurobawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gagamma3 in vivo repertoires ";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB091878; BAD00240.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence up
05-JUL-2004 (Rel. 44, Last annotation
Ig heavy chain V-III region BUR.
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Tylopoda, Camelidae, Camelus
                                                                                                                                                                                                                                                                                                                                                                                 PIR; A02056; A1HUBR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human).
Eukaryota; Metazoa; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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02-MAR-2004 (TrEMBLrel. 27,
02-MAR-2004 (TrEMBLrel. 27,
Immunoglobulin heavy chain'
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protein sequencing; (
idone carboxylic acid
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12; Conservative
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75.0%;
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, Last annotation update)
VHDJ region (Fragment).
                                       Glycoprotein;
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Pred. No.
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on update)
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                                   Immunoglobulin V region;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 131;
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RESULT 27
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BAD00492
AC BAD00
AC BAD00
AC BAD00
DT 02-M
DT 02-M
DT 02-M
DT 02-M
OT 02-M
DT 02-M
    RESULT 28
BADO491
ID 08491
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AC BADO
DT 02-N
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GN 1GVI
OS Came
OC Euke
OC Euke
OC Mamm
OX NCB:
TO X
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Matches 12
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Matches 12
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MOD_RES
DISULFID
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SEQUENCE
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EMBL; AI
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                                                              Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gamma2 gamma3 in vivo repertoires ";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ
EMBL; AB092130; BAD00492.1; -.
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Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                          IGVH
                                                                                                                                                                                                                                                                                                                     O2-MAR-2004 (TrEMBLrel. 27, Created)
O2-MAR-2004 (TrEMBLrel. 27, Last sequence update)
O2-MAR-2004 (TrEMBLrel. 27, Last annotation update)
D2-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain VHDJ region (Fragment).
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                                                                                                                                              TISSUE=Spleen;
                                                                                                                                                                                                                   NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                 Camelus dromedarius
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"Libraries of heavy-chain antibodies reflecting
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Lin heavy chain VHDJ region (Fragment).
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Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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Pred. No. 0.05
2; Mismatches
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Pred. No. 0.059;
1; Mismatches
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Pyrrolidone carboxylic acid.
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02-MAR-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                     "Libraries of heavy-chain antibodies gamma3 in vivo repertoires."; Submitted (SEP-2002) to the EMBL/GenB EMBL; AB092148; BAD00510.1; -.
                                                                                                                                                                                                                                                                                                  TISSUE=Spleen;
Honda T., Akahori Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Camelus dromedarius
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Mammalia; Eutheria;
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nilarity 75.0%;
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13665 MW;
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Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
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                                                                                                                                                                                                                                                                                                  Kurosawa Y.;
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, Last annotation update)
.VHDJ region (Fragment).
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VHDJ region (Fragment).
Score 63;
Pred. No.
1; Mismatc
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                                                                                                               A8358DFDFBFB8F6E CRC64;
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0.062;
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                                                     Length 126;
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BAD00691;
02-MAR-2004
02-MAR-2004
                                                                               NON_TER
NON_TER
SEQUENCE
                                                                                                        TISSUE-Spleen;
Honda T., Akahori Y., Kurosawa Y.;
Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel gagamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB092329; BAD00691.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Honda T., Akahori Y., Kurosawa Y.; "Libraries of heavy-chain antibodies reflecting camel gamma3 in vivo repertoires."; Submitted (SEP-2002) to the EMBL/GenBank/DDBJ database
                                                                                                                                                                                                       Camelus dromedarius (Dromedary) (Arabian camel).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus
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Mammalia; Eutheria;
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                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                              NCBI_TaxID=9838;
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02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Immunoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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51
                                       1 Similarity
12; Conserv
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           ISSGGSGTYYSDSVKG
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 INTGGGVTYYSDSVKG
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127 AA;
                                                                               130
130 AA;
                                                                                                                                                                                                                                                                                                      PRELIMINARY;
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                                        Conservative
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                                                                               14108 MW;
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75.0%;
                                               70.8%;
75.0%;
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66
                   17
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                                       Score 63; DB
Pred. No. 0.06
2; Mismatches
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Pred.
                                                                                                                                                                                                                                                                                                      PRT;
                                                                               AF39AA4B9A8A8645 CRC64;
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RESULT 33
HV58_MOUSE
ID HV58_M
      RESULT 34

AAL35871

ID AAL35

AC AAL35

AC AAL35

AC O2-WA

DT O2-WA

DT O2-WA

DT O2-WA

DT O2-WA

CON NCBL

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RN SEQUI

RX MEDL

RA Tanha

RT Tanha

RT Tanha

RT Heavy

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RESULT

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Best Local S
Matches 13
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PDB; 1181; X-ray; B=20-117.

PDB; 118K; X-ray; B=20-117.

InterPro; IPR007110; Ig-like.

InterPro; IPR003596; Ig_v.

Pfam; PF00047; Ig; 1.

SMART; SM00406; IGv; 1.

PROSITE; PS50835; IG LIKE; 1.

3D-structure; Immunoglobulin V
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01-NOV-1990
01-OCT-2004
EMBL; AF NON_TER NON_TER
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DOMAIN
                                                               SEQUENCE FROM N.A.

MEDLINE=22007448; PubMed=12009207;

MEDLINE=2007448; PubMed=12009207;

Tanha J., Dubuc G., Hirama T., Narang S.A.,

"Selection by phage display of llama conven heavy chain antibody V(H)H properties.";

J. Immunol. Methods 263:97-109(2002).
                                                                                                                                                                                                                               Immunoglobulin heavy chain variable domain (Fragment).
Lama glama (Llama).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Lama.
                                                                                                                                                                                                                                                                                                                  AAL35871;
02-MAR-2004 (TrEMBLrel.
02-MAR-2004 (TrEMBLrel.
02-MAR-2004 (TrEMBLrel.
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STRAIN=BALB/CJ;
MEDLINE=89279149; PubMed=2499654;
Levy N.S., Malipiero U.V., Lebecque S.G.,
"Early onset of somatic mutation in immuno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-2004 (Rel. 45, Last annotation ug heavy chain V region 5-76 precursor. Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P18529;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primary immune response.";
J. Exp. Med. 169:2007-2019(1989)
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                       AAL35871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10090;
                                                                                                                                                                                                          CBI_TaxID=9844;
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                                               AF442940; AAL35871.1;
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69
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86
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117 AA;
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(Rel. 16, Last sequence
                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
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85
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27,
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Last sequence update)
Last annotation updat
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Pred. No.
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By similarity.
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                                                                                                        g S.A., MacKenzie C.R.;
conventional V(H) frag
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RESULT 36
BAD00388
ID BAD00
AC BAD00
AC BAD00
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DT 02-MA
DT 02-MA
DT 02-MA
DT 02-MA
COLOMICS
CAMELI
OC EUKAX
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OX NCB1
RN [1]
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RN [1]
RN SEQUIT
RT GINGE
RT TISSU
RA HONGE
RT GAMMA
DR SEQUIT
FT NON [7]
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FT NON [7]
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BAD00234
ID BAD000
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Best Local (
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BAD00388;
02-MAR-2004
02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-MAR-2004
02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BAD00234;
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NON_TER
SEQUENCE
                                                                                                        NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Libraries of heavy-chain antibodies reflecting camel gamma2 gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oz-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
1mmunoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                       gamma3 in vivo repertoires."
Submitted (SEP-2002) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Peripheral blood;
Honda T., Akahori Y., Ku
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Camelus dromedarius
                                                                                      SEQUENCE
                                                                                                                                                     EMBL;
                                                                                                                                                                                                               Honda T., Akahori Y., Kurosawa Y.;
"Libraries of heavy-chain antibodies reflecting camel
                                                                                                                                                                                                                                                       FISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                          Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                [mmunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                   AB092026; BAD00388.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AB091872; BAD00234.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 YISSGGSGTYYSDSVKG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 ISSGGSGTYYSDSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HISNGGGSTYYADSVAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTSGRGTYYADSVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       123
123 AA;
                                                                                  124
124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel. 27, Created)
(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation update)
in heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
Conservative
                                                                                    AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ä,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       123
13333 MW;
                                                                                                                                                                                                                                                                                                                                            (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12594 MW;
                                                                                    13593 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69.7%;
64.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69.7%;
                    69.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (Dromedary) (Arabian camel)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kurosawa Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       66
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3; Mismatches
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۲۰
Score 62; DB
Pred. No. 0.08
2; Mismatches
                                                                                                                                                                       EMBL/GenBank/DDBJ
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Pred.
2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CBA02A7073EFB8B2 CRC64;
                                                                                    F7DBFF7671BA0A0C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9BEFD170BC27D18F CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No.
                      No. 0.089;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           124
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                                          DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2;
.088;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .084;
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                                                                                                                                                                         databases
                                        Length 124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 118;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 123;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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Indels
                                                                                                                                                                                                                 gamma2
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Gaps
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RESULT 37
BADDOG AC
AC BADOG
A
Query Match
Best Local S
Matches 11
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Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB092244; BAD00606.1; -.
Strausberg R.L., Feingold B.A., Grouse L.H., Derge J.G.,
Klausmer R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stappleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Amphibia; Batrachia; Chordata; Craniata; Vertebrata; Euteleostomi;
Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-2004 (TrEMBLrel. 01-OCT-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q6DDQ7;
01-OCT-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-MAR-2004
02-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BAD00606;
02-MAR-2004
                                                                                                                                                      TISSUE=Spleen;
PubMed=12477932;
                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                 Klein S.L., S
Richardson P.
                                                                                                                                                                                                                                                                                                                                                             MEDLINE=22341132; PubMed=12454917;
                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hypothetical protein.
Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q6DDQ7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NON TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; vertebiaca; eucasc
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update
10munoglobulin heavy chain VHDJ region (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BAD00606
                                                                                                                                                                                                                                                                        initiative.
                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9838;
                                                                                                                                                                                                                                                                                            "Genetic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            52
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ISSGGSGTYYSDSVKG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   issesstyvspsyke 17
                                                                                                                                                                                                                                                   225:384-391 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   136 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            136
                                                                                                                                                                                                                                                                                                                                      Strausberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                          genomic tools for Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14332 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Dromedary) (Arabian Chordata; Craniata; V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69.7%;
                                                                                                                                                                                                                                                                                                                                         R.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 62; DB 2;
Pred. No. 0.098;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                      Wagner L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B5DCA85A15DC0546 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               614
                                                                                                                                                                                                                                                                                               research:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                         Pontius J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ā
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Best Local Similarity
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Best Local Similarity 75.0%; Pred. No. 0.48;
Matches 12; Conservative 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                            BAD00422
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AAI35869;
02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
1mmunoglobulin heavy chain variable domain (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lama glama (Llama).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Lama.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypothetical protein. SEQUENCE 614 AA; 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tanha J., Dubuc G., Hirama T., Narang S.A., MacKenzie C.R.; "Selection by phage display of llama conventional V(H) fragments with meavy chain antibody V(H)H properties."; J. Immunol. Methods 263:97-109(2002).

EMBL; AF442938; AAL35869.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
MEDLINE=22007448; PubMed=12009207;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9844;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ISSDGRNTYYADSVKG 66
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        117 AA;
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                               (TrEMBLrel. 27, Created)
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(TrEMBLrel. 27, Last annotation update)
in heavy chain VHDJ region (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68253 MW;
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75.0%;
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Pred. No. 0.12;
1; Mismatches
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mmunoglobulin

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                                                                                    Query Match
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Matches 11
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                                                                                                                  "Libraries of heavy-chain antibodies reflecting camel gamma3 in vivo repertoires.";
Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AB092060; BAD00422.1; -.
                                                                                                                                                                                              NCBI_TaxID=9838; [1]
                                                                                    SEQUENCE
                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                         Camelus dromedarius
                                                                                                                                                              Honda T., Akahori Y.,
                                                                                                                                                                        TISSUE=Spleen;
57
                 6 GSGTYYSDSVKG 17
                                          11;
                                                     Similarity
GSGTYYADSVKG
                                                                                    119
119 AA;
                                           Conservative
                                                                                               119
                                                                                    12748 MW; 3B382D11247DFD85 CRC64;
                                                                                                                                                                                                                  (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                    68.5%;
91.7%;
83
                                                                                                                                                              Kurosawa Y.;
                                           <u>--</u>
                                                    Score 61;
Pred. No.
                                           Mismatches
                                                               DB 2;
                                                     .12;
                                           <u>,</u>
                                                               Length 119;
                                           Indels
                                                                                                                                                   gamma2
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Search completed: December 17, Job time: 51.809 secs 2004, 19:14:37

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Title:
Perfect score:
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Maximum Match 100%
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A_Geneseq_23Sep04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2003s:*
6: geneseqp2003bs:*
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Gapop 10.0 , Gapext 0.5
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118.029 Million cell updates/sec
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54
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Query Match 100.0%; Score 54; DB 4; Length 10; Best Local Similarity 100.0%; Pred. No. 0.0016; Matches 10; Conservative 0; Mismatches 0; Indels

<u>,</u>

Gaps

SQ Sequence 10 AA;	The present invention describes a monoclonal specifically with ganglioside GD3. The antibuseful in the diagnosis and therapy of tumous diagnosis. The present sequence is a protein of the invention	1; 183pp; Japanese. ntion describes a mon tion describes a mon describes a mon therapy o agnosis and therapy o resent sequence is a	New human type complementation-determinin and derivatives against ganglioside GD3, of e.g. tumors, with low antigenicity, liactivity in cancer.	WPI; 2001-266143/27.	PI Hanai N, Shitara K, Nakamura K, Niwa R; XX	AA PA (KYOW) KYOWA HAKKO KOGYO KK. YX	PR 30-SEP-1999; 99JP-00278291. PR 06-APR-2000; 2000JP-00105088.	PF 29-SEP-2000; 2000WO-JP006774.	PD 05-APR-2001. XX	PN WO200123432-A1.	AX OS Mus musculus. XX	Ganglioside; GD3; complementarity determining cancer.	DE Ganglioside GD3 specific antibody related peptide	DT 03-JUL-2001 (first entry)	AC AAB81981;	RESULT 1 AAB81981 ID AAB81981 standard; peptide; 10 AA.	ALIGNMENTS	26 37 68.5 393 4 AAB88481 27 37 68.5 685 7 AB064573 28 37 68.5 2022 6 ABR63232 28 36 66.7 160 5 ABP30519 30 36 66.7 257 3 AAG09510 31 36 66.7 257 3 AAG48547 33 36 66.7 257 3 AAG48547 34 36 66.7 260 3 AAG48543 35 36 66.7 361 4 AAB6543 37 36 66.7 361 4 AAB75213 38 36 66.7 361 4 AAB75213 39 36 66.7 361 4 AAB75213 39 36 66.7 361 4 AAB75213 40 36 66.7 361 4 AAB75213 41 36 66.7 361 4 AAB75213 42 35 66.7 369 3 AAG48542 43 35 64.8 23 5 AAB47065 45 35 64.8 23 5 AAB947065			
	which can react ts derivatives are cularly cancer the exemplification						g region-transplanted antibody useful in diagnosis and therapy ttle side effects but potent									g region; CDR; antibody;	ptide SEQ ID NO: 5.				

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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a peptide associated with the anti- ganglioside GD3 antibody
                                                                         Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                                                                                                                                    Ganglioside GD3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 6; Page 98; 121pp; Japanese.
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                                                                            WPI; 2001-266143/27.
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                                                                                                                            Shitara K,
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Pred. No. 0.023;
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New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy

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                                                                                                                                                                   The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
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                                                                                                                                                                                                                                                                                                                                                                                                                        Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Asada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antibody; tumour; melanoma.
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0.023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 X,
                                                                                   DB 6; Length 119;
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                                              Indels
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                                              Gaps
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RESULT 6
ABULIO10
ID ABULI
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XX WPI.
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XX UPI.
XX Cla.
RESULT 7
AAR33256
ID AARR
XX AAR3
AC AAR3
AC AAR3
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DT 25-M
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DE Rat
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Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents i combination, applicable in treating malignant tumor like melanoma.
                                                                                                       Promoter; variable; region; rat; immunoglobulin; heavy; H;
                                                                                                                                                       Rat immunoglobulin H chain varible region of pKM641HA3
                                                                                                                                                                                                           25-MAR-2003
12-JUL-1993
                                                                                                                                                                                                                                                                                          AAR33256;
                                                                                                                                                                                                                                                                                                                                           AAR33256 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 8; Page 99; 121pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2003-067410/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29-MAR-2001; 2001JP-00097483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-MAR-2002; 2002WO-JP003170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200278739-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ganglioside
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified ganglioside GD3 antibody associated protein #3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                04-FEB-2003
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                                                                           humanised; chimeric;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (КУОМ ) КУОМА НАККО КОСУО КК.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99 VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99 VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Niwa R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GD3; anti-ganglioside GD3 antibody; tumour; melanoma.
                                                                                                                                                                                                              (revised)
(first en
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                                                                                                                                                                                                                                                                                                                                           protein; 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          108
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                                                                                                                                                                                                              entry)
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                                                                              antibody; expression
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Pred. No. 0.023;
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                                                                                                         chain;
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Rattus rattus.

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RESULT 8
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Matches 10
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                                    07-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EP533199-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein
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                   07-SEP-1992;
                                                                           AU9346181-A
                                                                                                     Peptide
                                                                                                                                  Mus musculus
                                                                                                                                                   constant region;
                                                                                                                                                            expression
                                                                                                                                                                                      KM641 L chain variable region
                                                                                                                                                                                                                             AAR53341;
                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cancers, such as melanoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Humanised chimeric antibody prodn. against ganglioside
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-SEP-1991;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peptide
                                                        17-MAR-1994.
                                                                                                                                                                      Monoclonal
                                                                                                                                                                                                           18-NOV-1994
                                                                                                                                                                                                                                             AAR53341 standard; protein;
 (KYOW ) KYOWA
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                                                                                                                                                                                                                                                                                                              VKLGTYYFDS 10
                                                                                                                                                                                                                                                                                             VKLGTYYFDS
                                                                                                                                                 antibody; Ab; ganglioside GM2; chimera; chimeric antibody;
vector; heavy; light; chain; hypervariable region; CDR;
egion; hybridoma; Ig; immunoglobulin; promoter; enhancer.
                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                          (first entry)
 HAKKO
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                   92JP-00238452
                                      93AU-00046181
                                                                                           /label=
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                                                                                                              Location/Qualifiers
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                                                                                                                                                                                                                                                                                            118
 KOGYO
                                                                                                                                                                                                                                                                                                                                         100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hasegawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Mature protein'
                                                                                           sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         neuroblastoma, etc
                                                                                                                                                                                                                                              130
                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                        Score 54;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Z,
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                                                                                                                                                                                                                                                                                                                                        DB 2;
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RESULT 9
AAY28369
ID AAY2
XX AAY2
XX DT 04-N
XX DE PKM(
XX Anti
KW 11gh
XX US5:
XX M18
XX US5:
XX M18
XX W 17-1
XX NAK
PF 07-1
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PF 07-1
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Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 2 describes the construction of the vector pChi641HAl for chimeric human antibody H chain expression. mRNA from mouse anti-CD3 monoclonal Ab KM641-producing cells was isolated and KM641 H and L chain cDNAs isolated. The base sequences of the Ig variable regions in KM641 H chain cDNA (pKM641HA3) and KM641 L chain cDNA (pKM641LA2) are given in AAQ45438-39. A KM641-derived chimeric human Ab H chain expression vector was constructed by joining the H chain variable region gene from pKM641HA3 to a vector for chimeric human Ab H chain expression using the synthetic DNAs given in AAQ63439 and AAQ63440
           This immunoglobulin region was isolated from pKM641HA3. This sequence no methionine initiation codon and the leader sequence was partly lacking. The chimeric human antibodies are useful in the treatment of cancer, especially that which is of neural ectodermal origin. In contr to prior art constructs based on mouse monoclonal antibodies, the chimeric human antibodies do not cause anti-mouse immunoglobulin
                                                                                                           Example 1; Col 99-101; 188pp;
                                                                                                                                     Chimeric human antibody expression vectors.
                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                        Nakamura K,
                                                                                                                                                                                                                                                             07-SEP-1993;
                                                                                                                                                                                                                                                                                        07-JUN-1995;
                                                                                                                                                                                                                                                                                                                   17-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                      Mus sp
                                                                                                                                                                                                                                                                                                                                                                                               antibody; nucleotide; genomic; hypervariable region; chimeric;
light chain; amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                        PKM641 HA3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-NOV-1999
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                                                                                                                                                                                                                                  (KYOW ) KYOWA HAKKO KOGYO KK
                                                                                                                                                                                                                                                                                                                                           US5939532-A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         antibody specific for ganglioside effect on cancers such as melanoma
                                                                                                                                                                                                                                                                                                                                                                                                                                      immunoglobulin heavy
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                                                                                                                                                                                                                                                             93US-00116778
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Pred. No.
                                                                                                            English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                         chain.
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                                                                                                                                                                                                        Hasegawa M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         glioside GM2 - used for prelanoma, neuroblastoma
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Best Local Similarity
                                                                                  The present sequence is a murine immunoglobulin heavy chain variable region from plasmid KM-641. The coding sequence was used in the creation of an expression vector, along with the sequence for a human antibody, to produce humanised chimaeric antibodies, which can be used to treat cancer. Humanised chimaeric antibodies are more effective than mouse antibodies as they do not provoke a reaction in the human and side effects, such as the formation of anti-mouse immunoglobulin antibody and the rapid half-life of the immunoglobulins, do not occur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus
                                                                                                                                                                                                          New humanized chimera antibody KM-871 useful for treating cancer, comprises variable region of mouse monoclonal antibody, reactive with ganglioside and human antibody constant region.
                                                                                                                                                                                       Claim 14; Page 27-28; 65pp; English.
                                                                                                                                                                                                                                                        N-PSDB;
                                                                                                                                                                                                                                                                                         Shitara K,
                                                                                                                                                                                                                                                                                                                                     18-SEP-1991;
18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                  EP1013761-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Murine immunoglobulin heavy chain variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB01627;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB01627 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 130 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a reduced frequency antibodies
                                                              Sequence 130
                                                                                                                                                                                                                                                                                                                                                                       18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               humanised antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mouse; immunoglobulin; H chain; heavy chain; variable region; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide
                                                                                                                                                                                                                                                                                                                (КҮОМ ) КҮОМА НАККО
                                                                                                                                                                                                                                                                    2000-402204/35
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                    1 Similarity 100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VKLGTYYFDS
                                                                                                                                                                                                                                                                                          Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first
                                                                                                                                                                                                                                                                                                                                    91JP-00238375
92EP-00116026
                                                                                                                                                                                                                                                                                                                                                                       99EP-00124345
                                                                                                                                                                                                                                                                                                                                                                                                                           11. .130
/label= mature_immunoglobulin_heavy_chain_variable region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label= signal_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein;
10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entry)
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                              100.0%;
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                                                                                                                                                                                                                                                                                         Hasegawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             adverse effects when compared to mouse monoclonal
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                   Score 54; DB 3;
Pred. No. 0.026;
Mismatches
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Pred. No.
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                                                                                                                                                                                                                                                                                         Miyaji H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2;
                                         DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>.</u>
                                                                                                                                                                                                                                                                                          Kuwana
                                        Length 130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 130
                      Indels
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                    0
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                    Gaps
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RESULT 11
AAB81977
ID AAB81977
ID AAB81977
ID AAB81977
ID AAB81977
ID AAB81
XX AAB81
XX AAB81
XX AAB81
XX Gangl
RESULT 12
ABU11002
ID ABU11
XX
AC ABU11
XX
AC ABU11
XX
O4-FE
XX
Modif
XX
Gang1
XX
Gang1
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MOZO(
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Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                      Mus musculus.
                                                                                                       Ganglioside GD3; anti-ganglioside GD3 antibody; tumour; melanoma
                                                                                                                                                      Modified ganglioside GD3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 138 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                            04-FEB-2003
                                                                                                                                                                                                                                                                ABU11002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-266143/27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ganglioside
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                                                                                                                                                                                                                                                                                                                 ABUll002 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 1; Page 138-139; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (KYOW ) KYOWA HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-APR-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                 118
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 VKLGTYYFDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GD3 specific antibody related protein SEQ ID NO:
                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                 protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 127
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nakamura
                                                                                                                                                        antibody
                                                                                                                                                                                                                                                                                                                    138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 54; DB 4;
Pred. No. 0.028;
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                                                                                                                                                        associated protein
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RESULT 13
AABB1987
ID AABB1
XX AABB1
XX AABB1
XX O3-JU
DT 03-JU
DX Gangl
KW Cance
XX Synth
XX W0200
XX Synth
XX W0200
PD 05-AF
XX 29-SF
PF 30-SF
PR 30-SF
PR 30-SF
PR WPI;
XX WPI;
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Best Local :
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New human type complementation-determining region-transplanted antibody of derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
                                                                                                                                                   30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 3; Page 97; 121pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  combination, applicable in treating malignant tumor like melanoma.
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                                                                                                                                                                                          29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                                                      05-APR-2001.
                                                                                                                                                                                                                                                WO200123432-A1
                                                                                                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                  Ganglioside;
                                                                                                                                                                                                                                                                                                                                            Ganglioside
                                                                                                                                                                                                                                                                                                                                                                       03-JUL-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                            AAB81987 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 138 AA;
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                                                                    WPI; 2001-266143/27.
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                                                                                                                        (KYOW ) KYOWA HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gs containing genetically-modified antibody against ganglioside GD3 fragment, immunocompetent cell activators or/and antitumor agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                118
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                                                                                             Shitara
                                                                                                                                                                                                                                                                                                                                             GD3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                  GD3;
                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                           specific antibody related protein SEQ ID NO:
                                                                                             ζ,
                                                                                                                                                                                                                                                                                                                 complementarity determining
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
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                                                                                                                        KOGYO KK.
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                                                                                               Nakamura
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Pred. No.
                                                                                             ζ,
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                                                                                                                                                                                                                                                                                                                  region; CDR; antibody;
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RESULT 14
AAB81991
ID AAB81
XX AAB81
AC AAB81
XX AAB81
XX AAB81
XX Gangl
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Best Local Similarity
Matches 10; Conserv
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Best Local :
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                                                                                                                                                                                                                                        The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                             New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 582 AA;
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                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                         Claim 39; Page 175-179; 183pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-SEP-1999; 99JP-00278291
06-APR-2000; 2000JP-00105088
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ganglioside;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ganglioside
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB81991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB81991 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (KYOW ) KYOWA HAKKO KOGYO KK.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 VKLGTYYFDS
                                                1 VKLGTYYFDS
                                                                                                                         Similarity
                                                                                                                                                                                                582 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                           in cancer.
VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shitara K,
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                                                                                           Conservative
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Pred. No.
                                                                                                                      Score 54;
Pred. No.
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                                                                                                Mismatches
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Query Match
Best Local Similarity
Matches 7; Conserv
                                                                                                                                                                 The sequence is that of the heavy chain VHLM2 which shows minimal differences compared with the germline DP-46, which is of the VH3 family. It may be used as part of a method of producing chimeric mouse-human antibodies or fragments which have the same binding specificity as a parent Ab but have increased human characteristics, preventing antiglobulin response in humans. (Updated on 25-MAR-2003 to correct PN
                                                                                                                                                                                                                                                                                                                                                                                                                      Producing human antibody polypeptide dimer specific for antigent comprises use of chain shuffling using phage expression, useful reducing anti globulin responses in humans for increased human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23-SEP-1991;
25-SEP-1991;
                                                                                                                                                    globulin response field.)
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26-JUL-1993
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                                                                                                                                                                                                                                                                                                                                                 Example; Fig 6; 109pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hoogenboom
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CAMBRIDGE ANTIBODY T
                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          antibody; anti-globulin response; VH gene; chimeric;
n antibodies; antibody; prevention; tumour necrosis factor.
       Conservative
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(first entry)
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91GB-00020377.
92GB-00006318.
92GB-00006372.
92WO-GB000883.
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67. .9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "Framework region FR1"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Baier M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ANTIBODY TECHNOLOGY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 49
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                            77.8%;
87.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jespers LSAT,
     ۲.
                         Score 42; DB
Pred. No. 4.6;
       Mismatches
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I Camargo A, Carraro D, Carvalho CMB, Cascaruo Lour, Felipe M Chueire LMDO, Da Cunha MH, Fantinatti F, Farias IP, Felipe M F Ferrari LP, Ferro JA, Franco GR, De Freitas NSA, Furlan LR; I Gartapaglia D, Gazinelli RT, Gomes JAA, Goncalves PR, Grange PI Grisard EC, Guimaraes CT, Hanna ES, Jardim SN, Laurino JP, PI De Medeiros SRB, Meissener RDV, Moreira MA, Do Nascimento FF; PI Nicolas MF, De Oliveira JG, Oliveira SC, Paixao RFC, Parra PI Nicolas MF, De Oliveira JG, Oliveira SC, Paixao RFC, Parra PI Pasa TBC, Pedrosa FDO, Pena SDJP, Pereira JO, Pereira M, Porto JTR, Potrich DP, Ramalho CE, Rais AMM; PI Rondinelli E, Sampaio AH, Dos Santos FR, Schneider MPC, Sil Steindel M, Teixeira SMR, Tevilato PB, Urmenyi TP, Wassen RD, Steindel M, Teixeira SMR, Tevilato PB, Urmenyi TP, Wassen RD, Azevedo V, Bartoleti LA, Batista JDS, Filho AS, Zaha A;
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                                              The present sequence is that of the protein encoded by the CV44287 gen of Chromobacterium violaceum strain ATC 12472 (NCIB 9131, NCTC 9757, 1249, DSM 30191, IAM 12470, LMG 1267). The invention relates to 29 polymucleotides that have been identified by sequencing the genome of this strain, to the polypeptides ADQ26328-ADQ26356 encoded by these polymucleotides and to the uses of the polymucleotides and polypeptid for therapeutic, diagnostic, medicinal, pharmacological and pharmacognostic applications, in control processes for environmental parameters, and in enzyme synthetic processes. The CV44287 gene is involved in haemolytic activity. The gene and the encoded polypeptide entices of the production of haemolysins for pharmaceutical use as
                                                                                                                                                                                                                                                                                                              New gene-coding polynucleotides of the chromosome of Chromobacterium violaceum, useful for therapeutic, diagnostic or pharmacological applications, in control processes for environmental parameters or ir enzyme synthesis.
                                                                                                                                                                                                                                                                             Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                             Andrade EDRM,
Cardoso DDFDP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Almeida
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                                                                                                                                                                                                                                                                                                                                                                                                            2004-500292/47.
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OB Almeida R, Antonio N.
Inatto SL, Brigido MDM, D
Carraro D, Carvalho CMB,
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tto SL, Brigido MDM, De Brito CFA, Brochi M, Burit

irraro D, Carvalho CMB, Cascardo JCDM, Cavada BS;

Da Cunha MH, Fantinatti F, Farias IP, Felipe MSS;

Perro JA, Franco GR, De Freitas NSA, Furlan LR;

Gazinelli RT, Gomes JAA, Goncalves PR, Grangeiro

Gazinelli RT, Gomes JAA, Goncalves PR, Grangeiro
                                                                                                                                                                                                                                                                                                                                                                                                                                                Parente JA,
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                                                                                                                                                                                                                                                                             English.
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Laurino JP, Lima LF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    r MPC, Silva DW,
Souza RC;
P, Wassen R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Martins WS;
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                                                                                                                                              polypeptides
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RESULT 18
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Matches 6
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Best Local
                                                                                                                                                                                                                                                                                                structure having 4-linked, 6-linked and 4,6-linked anhydroglucose units or, in the presence of suitable acceptors, oligosaccharides. The protein can be used to produce an oligosaccharide or polysaccharide of interest,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glucosyltransferase A; gtfA; glucan; anhydroglucose; sucrose; oligosaccharide; polysaccharide; sucrose; fructan; symbiotic; probiotic.
                                                                                                                                                                                                                                                            for example, to produce a glucan with sucrose as a substrate and optionally a fructan as a probiotic or symbiotic. This sequence represents L. reuteri glucosyltransferase A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAU74519;
Bacterial polypeptide #2616
                                                                                                                                                                                                                                      Sequence 1781 AA;
                                                                                                                                                                                                                                                                                                                                    The invention relates to a Lactobacillus reuteri glucosyltransferase A (gtfA) polypeptide. This polypeptide produces a glucan with a unique
                                                                                                                                                                                                                                                                                                                                                                           Claim 3; Page 48-55; 59pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lactobacillus reuteri glucosyltransferase A (gtfA) polypeptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAU74519 standard; protein; 1781
                         12-FEB-2004
                                                  ADF06503
                                                                        ADF06503 standard; protein; 94 AA
                                                                                                                                                                                                                                                                                                                                                                                                              Protein with glucosyltransferase activity derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (NEDE ) NEDERLANDSE ORG TOEGEPAST
                                                                                                                                                                                      Local Similarity
nes 6; Conserv
                                                                                                                                      1724 GTYYFDN 1730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2460 VKYGTFHFDS 2469
                                                                                                                                                             4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                        AAS20540
                                                                                                                                                               GTYYFDS 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                       Conservative
                       (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10
                                                                                                                                                                                                  70.4%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          74.1%;
70.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dijkhuizen L,
                                                                                                                                                                                      Score 38; DB 5;
Pred. No. 5.1e+02;
1; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 40; DB 8;
Pred. No. 5.3e+02;
2; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rahaoui H,
                                                                                                                                                                                       0
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                                                                                                                                                                                                             Length 1781;
                                                                                                                                                                                                                                                                                                                                                                                                                 from Lactobacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Leer RJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               indels
                                                                                                                                                                                       Indels
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                                                                                                                                                                                      0
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                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
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The invention relates to new Proteus mirabilis polypeptides and polypurcleotides. The invention also relates to antibodies against the polypeptides, methods for producing the polypeptides, a method of generating vaccines for immunising an individual against P. mirabilis, a method for evaluating a compound for the ability to bind a P. mirabilis polypeptide and a method for screening test compounds for anti-bacterial activity. The polypeptides and polynuclaotides are useful as molecular targets for diagnosing, preventing and treating pathological conditions resulting from bacterial infection, as reagents for diagnosis of bacterial diseases, as components of antibacterial vaccines, as targets for antibacterial drugs or as bio-control agents for plants. This sequence represents a Proteus mirabilis polypeptide of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New Proteus mirabilis polypeptides and polynucleotides, useful reagents for diagnosis of bacterial disease, as components of antibacterial vaccines, as targets for antibacterial drugs, or
Sequence 94 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; SEQ ID NO 6788; 870pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              biocontrol agents for plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2003-895291/82.
N-PSDB; ADF02331.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-APR-2000; 2000US-00543681.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Proteus mirabilis infection; bacterial infection; antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunostimulant.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GL;
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RESULT 19
ADC96455
ID ADC96
XX ADC96
XX DC96
XX Vacci
CW Abdom
XX Vacci
KW Vacci
KW Abdom
XX 
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Best Local
                                                                                                                                                                                                                                                                                                            Enterococcus
                                                                                                                                                                                                                                                                                                                                                                                              Vaccine; urinary tract infection; bacteraemia; endocarditis; wound; abdominal-pelvic infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADC96455 standard; protein; 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             faecium protein sequence SEQ ID 6082.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 LGTYYFDS 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LGTYYYNS 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            68.5%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 37;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB
32;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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30-JUN-1998; 24-JUN-2003

98US-00107532

US6583275-B1

02-JUL-1997; 14-MAY-1998;

97US-0051571P. 98US-0085598P.

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RESULT 20
ABOO0524
ID ABOO05
XX
AC ABOO0
XX
AC ABOOO
X
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CC one of 10 fully defined sequences given in the (or comprising 40 its complement or sequences hybridising to it). Also included are a comprising the mucleic acid operably linked to transcription regulatory element, a cell comprising the vector and a comprising the mucleic acid operably linked to transcription regulatory element, a cell comprising the vector and a comprising the mucleic acid. The nucleic acids are chosen from 364 disclosed sequences encoding 3654 disclosed proteins. The nucleic acids is useful for diagnosing pathological conditions creating from E. faecium bacterial infection (e.g. urinary tract infection) and for screening drugs such as agonists and abdominal-pelvic infection) and for screening drugs such as agonists and analysists. The nucleic acid is useful for recombinant production of Candida albicans derived peptides or antisense polypeptides. Pharmaceutical compositions and vaccines containing the nucleic acid are useful for preventing or treating Enterococcus faecium infections. The present sequence represents con eif the disclosed E. faecium proteins
                          White Human; angiogenesis; cytokine; cell proliferation; pluripotent; (we cell differentiation; totipotent; stem cell; transplantation; bio-sensor; (we neuroepithelial cell; autoimmune disease; neural cell; genetic disorder; (we neuroepithelial cell; autoimmune disease; neuropathy; haematopoiesis; bone; (we peripheral nervous system disease; peuropathy; neuroprosis; cancer; (we peripheral nervous system disease; cancer; (we regeneration; hound healing; burn; ulcer; osteoporosis; cancer; (we regenerative disorder; osteoporosis; cancer; (we receathritis; bone degenerative disorder; osteoporosis; cancer; (we repair; lung fibrosis; liver fibrosis; reperfusion injury; (we protection; lung fibrosis; liver fibrosis; reperfusion injury; (we perfusion; lung fibrosis; coagulation disorder; allergic reaction; (we haemostatic; vulnerary; antiparkinsonian; anticonvulsant; haemostatic; vulnerary; antiparkinsonian; antiarthritic; (we haemostatic; vulnerary; antiparkinsonian; antiarthritic; antiarthritic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New isolated nucleic acid derived from Enterococcus faecium encoding an 
Enterococcus faecium polypeptide useful for detection, prevention and 
treatment of a pathological condition resulting from a bacterial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 1; SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABO00524 standard; protein; 179 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel human polypeptide #111.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 KLGTYYFD 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADC92801.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
   immunostimulant; antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Α
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         faecium encoding an Enterococcus faecium polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bugh D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  68.5%;
75.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ۲.
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Pred. No. 48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 137;
immunosuppressive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>.</u>.
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CC regulation of haematopoiesis and are useful for treating myeloid or regeneration of bome, cartilage, tendon, ligament and/or nerve tissue (growth, in tissue repair, healing of burns, incisions, ulcers, for ctreating osteoporosis, osteoarthritis, bone degenerative disorders, and periodontal disease. The polypeptides are also useful for gut protection or regeneration and treatment of lung or liver fibrosis, reperfusion cor injury in various tissues, various immune deficiencies and disorders including severe combined immunodeficiency (SCID), bacterial or fungal conditions, such as asthma or other respiratory problems. The conditions, such as asthma or other respiratory problems. The conditions, such as asthma or other respiratory problems. The conditions, such as haemoblish or to enhance coagulation and other haemostatic events in treating wounds resulting from trauma, surgery or other causes. The polypeptides exhibit immune stimulating or immune compressing activity, and are useful for treating aucoimmune diseases or coagula such as bacteria, fungi, viruses, effect biorhythms or circadian cycles of rhythms, fertility of male or female subjects, metabolism, note and analytical and orders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CC polymentides exchibit activities relating to angiogenesis, cytokine, cell consideration, cell differentiation, antiinflammatory, and stem cell consideration, cell differentiation, antiinflammatory, and stem cell consideration, differentiation and survival of pluripotent and totipotent consideration, manufacture of pluripotent and totipotent consideration, manufacture of bio-pharmaceuticals and consideration of bio-sensors. The polypeptides can be used to manipulate consideration of culture to give rise to neuroepithelial cells that can be considered to augment or replace cells damaged by illness, autoimmune disease, accidental damage or genetic disorders. The polypeptides induce the consideration of neural cells and regeneration of nerve and brain tissue consideration of neural cells and regeneration of nerve and brain tissue consideration of neural cells and regeneration of nerve and system consideration of disease, amyotrophic lateral sclerosis (ALS). The conjugation of hasease, amyotrophic lateral sclerosis (ALS). The conjugation of hasease and are also involved in chemotactic or chemokinetic activity,
                                                                        catabolism, and anabolism. ABO00414-ABO00749 represent the novel polypeptides of the invention. Note: The sequence data for this did not form part of the printed specification, but was obtained electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel nucleic acids and polypeptides for diagnosis, treatment of central and peripheral nervous system diseases and neuropathies, such as Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 20; SEQ ID NO 447; 300pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB;
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12-SEP-2002; 2002US-00243552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-SEP-2002; 2002WO-US029001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (HYSE-) HYSEQ INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    invention relates to the isolation of novel human
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                                                                                                This invention relates to a novel method for targeting disruption of an arbitrary gene in a genome of an organism which comprises providing the whole sequential data of the genome of such organism, selecting at least 1 arbitrary region in the sequence providing a vector that contains a sequence homologous with the selected region and a marker gene. The genome of a hyperthermostable archaebacterium, particularly the genome of a hyperthermostable archaebacterium, particularly the genome of a hyperthermostable archaebacterium, particularly the genome of an organism, which is applicable in studying gene structure and functions as well as enzyme activities of encoded proteins and useful in medicine, forensic science, food or drug inspection, molecular biology and immunology. With this method, the disruption of a gene at an arbitrary position in a genome can be achieved efficiently and reliably. The present sequence is that of a protein encoded by the genome of Thermococcus kodakaraensis which was derived using the method of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained of the visit of the printed specification, but was obtained of the visit of the printed specification.
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Matches 6
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                                                                                                Sequence 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Method for disrupting targeted gene in genome of organism particularly thermostable bacterium and with genome chips for analysis, applicable in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-257583/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29-AUG-2003; 2003WO-IB003597.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene structure; gene function; enzyme activity; medicine;
forensic science; food; drug inspection; molecular biology; immunology
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Thermococcus kodakaraensis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene disruption; gene targeting; marker gene; transformation;
homologous recombination; hyperthermostable archaebacterium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thermococcus kodakaraensis KOD1 protein sequence SeqID55
                                                                                                                           ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (NISC-) JAPAN SCI & TECHNOLOGY CORP.
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   VKLGTYYFDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LGTYYFDS 10
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                                Score 37; DB
Pred. No. 81;
3; Mismatches
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                                                            Length 222;
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RESULT 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                foetal abnormality; developmental abnormality; haematopoietic disorder; immune system disorder; AIDS; autoimmune disease; rheumatoid arthritis; Parkinson's disease; cognitive disorder; schizophrenia; skin disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human gene 18 encoded secreted protein HFKHW50,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-AUG-2001
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145 LKLGTYVYDT 154
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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therapy.

19-NOV-1999; 99US-0166414P. 21-JUL-2000; 2000US-0219665P. Protein 15-NOV-2000; 2000WO-US031282 25-MAY-2001 WO200136440-A1 Peptide Homo sapiens. (HUMA-) HUMAN GENOME SCI INC. 2001-343795/36. ×S Komatsoulis GA, /label= Signal\_peptide Location/Qualifiers /note= "Mature secreted protein" Birse Œ Moore

Isolated nucleic acid molecule encoding a human secreted protein is used in preventing, treating or ameliorating a medical condition.

Claim 11; Page 496-498; 553pp; English.

AREO3871-AREO3896 represent the proteins they encode.

AREO3871-AREO3896 represent human secreted protein fragments or variants. CC The secreted proteins and their genes are useful for preventing, treating cor ameliorating medical conditions, e.g., by protein or gene therapy. CC Pathological conditions can be diagnosed by determining the amount of the new protein in a sample or by determining the presence of mutations in the new genes. Specific uses are described for each of the 23 genes, cc based on the tissues in which they are most highly expressed, and include developing products for the diagnosis or treatment of proliferative disorders, cancer, tumours, foetal and developmental abnormalities, cc haematopoietic disorders, diseases of the immune system, AIDS, autoimmune diseases (e.g., rheumatoid arthritis), inflammation, allergies, consistive disorders (e.g., Alzheimer's disease, Parkinson's disease), cognitive disorders, schizophrenia, asthma, skin disorders (e.g., pregnancy-related disorders, antherosclerosis, cardiovascular disorders, pregnancy-related disorders, endocrine disorders, and infections. The proteins can also be used to aid wound healing and epithelial cell AAD08283-AAD08355 represent cDNAs corresponding to 23 human secreted

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ARESULT 23
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                        The present invention relates to albumin fusion proteins comprising a therapeutic protein X and human albumin (HA, also known as human serum albumin, HAA). The proteins are useful for treating a disease or disorder that may be modulated by therapeutic protein X. The albumin extends the shelf-life of protein X, and may increase its biological in vitro/in vivo activity. The protein is useful for treating and diagnosing disorders such as cancer, reproductive disorders, digestive disorders (e.g. Crohn's disease, ulcerative colitis), immune disorders (e.g. acquired
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Albumin fusion protein; therapeutic protein X; human albumin; HA; human serum albumin; HSA; cancer; reproductive disorder; highestive disorder; immune disorder; endocrine disorder; haematopoietic disorder; neural disorder; connective disorder; cytostatic; antiinfertility; antiinflammatory; antiulcer; immunomodulator; anti-HIV; antidiabetic; haemostatic; noctropic;
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25-APR-2000; 2000US-0199384P
21-DEC-2000; 2000US-0256931P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human albumin fusion protein #1245.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             neuroprotective; antiparkinsonian; antimicrobial; neuroleptic; osteopathic; antiarthritic.
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further relates to: a composition comprising the albumin fusion protein and a pharmaceutical carrier; a kit comprising the composition of the albumin fusion protein formula; a method of treating a disease or disorder in a patient comprising the step of administering the albumin fusion protein; a method of treating a patient with a disease or disorder that is modulated by Therapeutic protein; X, or its fragment or variant; a method of extending the shelf life of Therapeutic protein; X, or its fragment or variant; a nucleic acid molecule comprising a polynucleotide sequence encoding the albumin fusion protein; a vector comprising the nucleic acid molecule of the albumin fusion protein. The albumin fusion protein and its compositions have the following anti-activities: cytostatic, antianaemic, antiarthritic, antiasthmatic, anti-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 haematopoletic disorders, neural disorders (e.g. Alzheimer's, Parkinson's, Creutzfeldt-Jacob disease, encephalomyelitis, meningitis schizophrenia), and connective disorders (e.g. osteoporosis, arthriti ABG63326-ABG65518 represent albumin fusion proteins of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New albumin fusion proteins, useful for diagnosing, treating, or ameliorating diseases or disorders e.g. cancer, anemia, art asthma, inflammatory bowel disease or Alzheimer's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            albumin fusion protein; cytostatic; antianaemic; antiarthritic; antiathmatic; anti-Atty; immunosuppressive; antiinflammatory; antipsoriatic; anti-bacterial; osteopathic; dermatological; antigout; immunomodulator; antiarrhythmic; cardiant; nootropic; antilipaemic; nephrotropic; uropathic; neuroprotective; antiparkinsonian; tranquilizer;
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25-APR-2000; 2000US-0199384P.
21-DEC-2000; 2000US-0256931P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 1319; 279pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or connective tissue or epithelial diseases (e.g. Crohn's disease, scleroderma, wound healing or epidermolysis bullosa). This sequence represents a therapeutic protein x relating to the albumin fusion protein of the invention. The sequence listing data for this specification was dowloaded from the USPTO website.
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08-NOV-1997;
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97US-0064964P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-00134001
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                                                                  Bush D;
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87.5%;
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Pred. No. 1.5e
0; Mismatches
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1.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  frame; ORF; bacterial infection;
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Best Local S
Matches 6
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which encode human secretory or membrane proteins represented by AAB88317 - AAB8419. Included in the invention are primers AAF93917 - AAF94295 and AAF62232 - AAF62235 which are used to isolate the CDNA sequences of the invention. The invention also includes methods for the production of antibodies directed against the proteins, and cDNA sequences, which can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 388 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel isolated nucleic acid encoding a Staphylococcus epidermis polypeptide, useful for diagnosing and treating bacterial infect
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; ABN92651.
                                                                                                                              Nucleic acids encoding secretory proteins/membrane proteins, useful gene therapy or as candidate target molecules in drug development.
                                                                                                                                                                                                                                                                      08-JUL-1999; 99JP-00194179
11-JAN-2000; 2000JP-00118775
02-MAY-2000; 2000JP-00183766
                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; secretory protein; membrane protein; vaccine; gene therapy; rheumatoid arthritis; diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human membrane or secretory protein clone PSEC0251.
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                                                                      This invention relates to nucleic acid sequences AAF93744 -
                                                                                                   Claim
                                                                                                                                                                        N-PSDB;
                                                                                                                                                                                                                                                                                                                               07-JUL-2000; 2000EP-00114090
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                                                                                                                                                                       2001-093989/11.
DB; AAF93908.
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                                                                                                                                                                                                                Isogai T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RVGTYYFGS
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                                                                                                  NO 330;
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66.7%;
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Pred.
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Mismatches
                                                                                                  Sequence
                                                                                                                                                                                                                 Kawai Y,
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1.5e+02;
                                                                                                   Listing; English
                                                                                                                                                                                                                Sugiyama
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bacterial infections.
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                                                                                                                                                                                                                 Hayashi K;
                                                                         AAF93916
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RESULT 27
ABO64573
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Recombinant expression vector; transcription regulatory element; Klebsiella pneumoniae protein; antibacterial; Vaccine.
The invention describes a new isolated nucleic acid encoding a Klebsiella pneumoniae polypeptide. Also described are: a recombinant expression vector comprising the nucleic acid, operably linked to a transcription regulatory element; and a cell comprising the recombinant expression vector. The nucleic acid is useful for preparing a vaccine composition against Klebsiella pneumoniae. This is the amino acid sequence of a Klebsiella pneumoniae polypeptide of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2003-895346/82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Breton GL,
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                                                                                                                                                                                                                                                                                Disclosure; SEQ ID NO 11090; 932pp; English.
                                                                                                                                                                                                                                                                                                                                                    preparing a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GENO-) GENOME THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         196 LGTYYSDS 203
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                                                                                                                                                                                                                                                                                                                                            acid encoding a Klebsiella pneumoniae polypeptide, vaccine composition against Klebsiella pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Osborne M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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87.5%;
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Pred. No. 1.5e+02;
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Sequence 685 AA;

RESULT 29 ABP30519 ID ABP30 XX

ABP30519

standard; protein; 160 AA

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RESULT 28
ABR63232
ID ABR63
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Best Local S
Matches 6
                                                                                                            Matches
                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                 The present invention relates to glucan capable of being produced by glucosyltransferase activity of a lactic acid bacterium on a sucrose substrate. The method is useful as a thickener, as a prebiotic and as a bioactive agent and as an anti-corrosion agent. The glucan can be incorporated in foodstuffs such as beverages, suces, dressings, dairy products. The glucan is useful as anticorrosion agent, e.g. for the protection of ship hulls. It can also be incorporated in nutritional or pharmaceutical compositions intended for improving the condition of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Glucan; glucosyltransferase activity; thickener; prebiotic; bioactive agent; anti-corrosion agent; foodstuff; gastrointestinal tract.
                                                                                                                                                                                                                          Sequence 2022 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 11; Fig 1; 51pp;
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                                                                                                                                                                                                                                                                                  glucansucrase
                                                                                                                                                                                                                                                                                                            gastrointestinal tract.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel glucan produced by glucosyltransferase activity of lactic acid bacterium on sucrose substrate, and having backbone consisting of alpha (1,3)- and alpha (1,6)-linked anhydroglucose units, useful as thickener.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-JUL-2001; 2001EP-00202752.
25-JUL-2001; 2001EP-00202841.
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  1724
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                                                          1 VKLG--TYYFD 9
                                                                                                         8; Conserv
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VKIGNDTYYFD
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                                                                                                              Conservative
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                                                                                                                                                                                                                                                                               gene
  1734
                                                                                                                                         68.5%;
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                                                                                                                                                                                                                                                                                                            The present sequence
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                                                                                                            1;
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Pred. No.
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Pred. No.
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                                                                                                              Mismatches
                                                                                                                                         9.1e+02;
                                                                                                                                                                   DB 6;
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RESULT 30
ABP26309
ID ABP26
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AC ABP26
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AC ABP26
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DT 02-JU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS (Streptococcus/GAS) (Streptococcus/GAS) (Streptococcus/GAS) (Streptococcus/GAS), given in the specification. The proteins have antibacterial and antiinflammatory activity. (I), mucleic acids encoding (I), ABN66044-ABN71526 and antibadies that bind (I) are used in the manufacture of medicaments for the treatment or prevention of infection or disease caused by Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes. Wholeic acids encoding (I) are used to detect Streptococcus in a composition comprising (I) or a nucleic acid encoding (I), may be used to detect acid encoding (I), may be used as a vaccine or diagnostic composition. The disease caused by Streptococcus that is prevented or treated may be meningitis. Nucleic acid encoding (I) may be used to recombinantly produce (I) and may be used in gene therapy. Antibodies to (I) are used for affinity and may be protein a protein and streptococcus in a protein accomposition of the disease caused by Streptococcus that is prevented or treated may be meningitis. Nucleic acid encoding (I) may be used to recombinantly produce (I) and may be composition or a protein accomposition or accomposition or a protein accomposition or accomposition or
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                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 160 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New Streptococcus protein for the treatment or prevention of infection or disease caused by Streptococcus bacteria, such as meningitis, and for detecting a compound that binds to the protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-OCT-2000; 2000GB-00026333.
24-NOV-2000; 2000GB-00028727.
07-MAR-2001; 2001GB-00005640.
     02-JUL-2002
                                                     ABP26309;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Streptococcus proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Page 4151; 4525pp; English.
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N-PSDB; ABN71150.
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                                                                                              ABP26309 standard; protein; 163 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to a protein (ABP25413-ABP30895) from group B
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Tettelin H;
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INST GENOMIC RES.
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75.0%;
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RESULT 31
AAG09510
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Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                       Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes. Nucleic acids encoding (I) are used to detect Streptococcus in a biological sample. (I) is used to determine whether a compound binds to (I). A composition comprising (I) or a nucleic acid encoding (I), may be used as a vaccine or diagnostic composition. The disease caused by Streptococcus that is prevented or treated may be meningitis. Nucleic acid encoding (I) may be used to recombinantly produce (I) and may be used in gene therapy. Antibodies to (I) are used for affinity chromatography, immunoassays, and distinguishing/identifying
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in the specification. The proteins have antibacterial and antiinflammatory activity. (I), nucleic acids encoding (I), ABN66044-ABN71526 and antibodies that bind (I) are used in the manufacture of medicaments for the treatment or prevention of infection or disease caused by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New Streptococcus protein for the treatment or prevention of infection or disease caused by Streptococcus bacteria, such as meningitis, and for detecting a compound that binds to the protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-OCT-2000; 2000GB-00026333.
24-NOV-2000; 2000GB-00028727.
07-MAR-2001; 2001GB-00005640.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae; group A streptococcus; Streptococcus pyogenes; antibacterial; antiinflammatory; infection; vaccine; meningitis; gene therapy.
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N-PSDB; ABN66940.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                group A streptococcus; Strept antiinflammatory; infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Streptococcus polypeptide SEQ ID NO 1794
                                                  17-OCT-2000
                                                                                  AAG09510
                                                                                                                 AAG09510 standard; protein; 257
                                                                                                                                                                                                                                                                                                                              Sequence 163 AA;
                                                                                                                                                                                                                                                                                                                                                             Streptococcus proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a protein (ABP25413-ABP30895)
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Tettelin H;
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(GENO-) INST GENOMIC RES
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Arabidopsis thaliana protein fragment SEQ ID

NO:

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99US-0139456P. 99US-0139458P. 99US-0139458P. 99US-0139458P. 99US-0139461P. 99US-0139461P. 99US-0139462P. 99US-0139463P. 99US-013963P. 99US-0139750P. 99US-0139753P. 99US-013983P.	99US-0135629P 99US-0136021P 99US-0136022P 99US-0137722P 99US-0137528P 99US-0137528P 99US-0137524P 99US-0137724P 99US-013804P 99US-0138847P 99US-0139452P 99US-0139452P 99US-0139452P 99US-0139452P 99US-0139454P	99US-01324048P 99US-0132484P 99US-0132485P 99US-0132485P 99US-0132487P 99US-0132487P 99US-0134256P 99US-0134218P 99US-013421P 99US-013421P 99US-0134370P 99US-0134768P 99US-0134768P 99US-0134768P	99US-0121825P 99US-0123448P 99US-0125788P 99US-0126764P 99US-0126785P 99US-0126785P 99US-0127462P 99US-0128734P 99US-0128714P 99US-0128945P 99US-0130077P 99US-0130610P 99US-0130610P 99US-0130610P	fication; assay; gen quence. aliana.
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RESULT 32
AAG48547
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22-SEP 1999
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24-SEP 1999
26-OCT 1999
11-OCT 1999
                                                                                      Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
  EP1033405-A2
                                                                                                                                                                            Arabidopsis thaliana protein fragment
                                                                                                                                                                                                                                                                                                                   AAG48547 standard;
                                            Arabidopsis thaliana
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llarity 75.0%;
Conservative
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S-0153070P.
S-0154039P.
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S-0155486P.
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S-0155659P.
S-0157753P.
S-01578659P.
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. 1.5e+02;
1;
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99US-012182FP
99US-0123548P
99US-0125788P
99US-0126264P
99US-01267864P
99US-0127462P
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16-JUL-1999 19-JUL-1999 19-JUL-1999 19-JUL-1999 19-JUL-1999 19-JUL-1999 19-JUL-1999 20-JUL-1999 20-JUL-1999 20-JUL-1999 20-JUL-1999 21-JUL-1999

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RESULT 33
ADN46472
ID ADN46472 standard; p
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AC ADN46472;
XY
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XX
DE Thermococcus kodakar
XX
DE ONE of the combina
KW gene disruption; gen
KW denologous recombina
KW gene structure; gene
KW forensic science; fo
XX
OS Thermococcus kodakar
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OS Thermococcus kodakar
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PF 18-MAR-2004.
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PF 29-AUG-2003; 2003WO-
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PR 30-AUG-2002; 2002JP-
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23-SEP-1999;
24-SEP;1999;
28-SEP-1999;
29-SEP-1999;
04-OCT-1999;
                                                                                                             gene disruption; gene targeting; marker gene; transformation; homologous recombination; hyperthermostable archaebacterium; KOD1; gene structure; gene function; enzyme activity; medicine; forensic science; food; drug inspection; molecular biology; immunology.
   30-AUG-2002; 2002JP-00319011.
                        29-AUG-2003; 2003WO-IB003597.
                                                                                        Thermococcus kodakaraensis.
                                                                                                                                                                     Thermococcus kodakaraensis KOD1 protein sequence SeqID350.
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Similarity 75.0%;
6; Conservative
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99US-0155458P
99US-015645BP
99US-015753P
99US-0157753P
99US-0157832P
99US-0159294P
99US-0159294P
99US-0159294P
99US-0159330P
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99US-015963BP
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99US-0160767P
99US-0160768P
99US-0160767P
99US-0160815P
99US-0160815P
99US-0161464P
99US-0161361P
99US-0161464P
99US-0161361P
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Pred. No. 1.5e+02;
1; Mismatches 1
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99US-0142055P 99US-014230P 99US-014230P 99US-014354P 99US-014366P 99US-0144331P 99US-0144331P 99US-0144332P 99US-0144332P 99US-0144332P 99US-0144332P 99US-0144332P 99US-0144332P 99US-0144332P 99US-0144332P 99US-014508P 99US-014508P 99US-0145145P 99US-0145145P 99US-0145145P 99US-0145145P 99US-0147204P 99US-0147204P 99US-0147303P 99US-0147303P 99US-0147303P 99US-014936P 99US-014936P 99US-014936P 99US-014936P 99US-014937P 99US-014937P 99US-014937P 99US-014938P 99US-014938P 99US-014938P 99US-014938P 99US-014938P 99US-014938P 99US-0151066P 99US-0151308P 99US-0151308P 99US-0151308P 99US-0151308P 99US-0151308P 99US-0151308P 99US-0153070P 99US-0153070P

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RESULT 34
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KW Prote
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This invention relates to a novel method for targeting disruption of an arbitrary gene in a genome of an organism which comprises providing the whole sequential data of the genome of such organism, selecting at least 1 arbitrary region in the sequence, providing a vector that contains a sequence homologous with the selected region and a marker gene. CC transformation, and homologous recombination. The genome is preferably the genome of a hyperthermostable archaebacterium, particularly cc Thermococcus kodakaraensis KOD1. The method is for targeting the cd disruption of a gene in the genome of an organism, which is applicable in studying gene structure and functions as well as enzyme activities of encoded proteins and useful in medicine, forensic science, food or drug inspection, molecular biology and immunology. With this method, the cdisruption of a gene at an arbitrary position in a genome can be achieved efficiently and reliably. The present sequence is that of a protein conclusing the method of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained of frametor in the format directly from MIPO at
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Best Local S
Matches 6
 25-FEB-199;
05-MAR-1999;
09-MAR-1999;
23-MAR-1999;
25-MAR-1999;
29-MAR-1999;
01-APR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Method for disrupting targeted gene in genome of organism particularly thermostable bacterium and with genome chips for analysis, applicable studying gene structure and functions.
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                                                                                                                                                                                                                                                           Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                              Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                 25-FEB-2000;
                                                                                                                                                                                                                                                                                               termination sequence.
                                                                                                                                                                                                                                                                                                                                                                  Arabidopsis thaliana protein fragment SEQ ID NO: 61316.
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99US-0121825P.
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99US-0125788P.
99US-0125785P.
99US-0126785P.
99US-0127462P.
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99US-0128234

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99US-0134221

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RESULT 35
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nilarity 75.0%;
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Pred. No. 1.5e
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Similarity 75.0%;
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Pred. No. 1.5e+02;
1; Mismatches 1
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3-0145145P. 3-0145218P. 3-0145224P. 3-0145276P. 3-0145913P.

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Matches 6
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25-OCT 1999;
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25-OCT 1999;
26-OCT 1999;
26-OCT 1999;
26-OCT 1999;
28-OCT 1999;
28-OCT 1999;
28-OCT 1999;
29-OCT 1999;
                                    The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABIG176-ABIG30511), expressed DNA sequences (ABIG1840-ABIG1675) and the encoded proteins (ABB57737-ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIFO at ftp.wipo.int/pub/published_pct_sequences
  Sequence 361 AA;
                                                                                                                                                                                                                                                                                                              Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                New isolated nucleic a
                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2001-656860/75.
N-PSDB; ABL11643.
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11-JUL-2000; 2000US-00614150.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Drosophila melanogaster polypeptide SEQ ID NO 29412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-MAR-2002
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99US-0161932P.
99US-0161932P.
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75.0%;
                                                                                                                                                                                                                                                                                                                                                                                   acid detection reagent for detecting 1000 or more and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                              29412; 21pp + Sequence Listing;
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2.1e+02;
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99US-0145918P 99US-0145918P 99US-0146388P 99US-0146388P 99US-0147204P 99US-0149204P 99US-0149204P 99US-0149204P 99US-01510808 99US-01510808 99US-01510808 99US-01520408 99US-01520408 99US-01520408 99US-01530708 99US-01530708 99US-0153030P 99US-0153030P 99US-0159331P 99US-0160764P 99US-0160764P 99US-0160764P 99US-0160814P

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RESULT 38
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ID AAB75
RESULT 39
AAE30515
ID AAE30
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                                                                                                                                     Matches
                                                                                                                                                                                                             which encode Drosophila gustatory receptor proteins represented by sequences AAB75193 - AAB75238. The invention includes methods for determining gustatory receptor ligands. Also included is a method for modulating the expression of the DNA encoding the receptors. The DNA and protein sequences may be used for the identification of compounds, e.g. pheromones and other semicohemicals, which may be used for pest management. The DNA sequences may also be used for behavioural studies involving gustatory systems in various organisms. Also, the DNA sequences may also be used to track down gustatory receptor genes in insects that damage crops or transmit diseases
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N-PSDB; AAF63752.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gustatory receptor; fruit fly; taste; pheromone; semiochemical; crop damage; pest control.
               AAE30515 standard; protein;
                                                                                                                                                                                       Sequence 361
                                                                                                                                                                                                                                                                                                                                                                               Claim 12; Page 146-147; 227pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                           pest
                                                                                                                                                                                                                                                                                                                                                                                                                    New isolated nucleic acid molecule encoding Drosophila Gustatory Receptor protein useful for e.g. identification of compounds which may be used for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Carlson PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-JUN-1999; 99US-0138668P.
10-FEB-2000; 2000US-0181704P.
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                                                                                                                                                                                                                                                                                                                                                    This invention relates to polynucleotide sequences AAF63732 - AAF63777
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Pred. No. 2.2e+02;
1; Mismatches 1
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Pred. No. 2.2e+02;
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RESULT 40
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                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                    Matches
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                            Cryptococcus neoformans
                                                        fungicide; gene therapy; infection.
                                                                                        C. neoformans
                                                                                                                      04-DEC-2003
                                                                                                                                                    ADB70112
                                                                                                                                                                               ADB70112 standard; protein; 387
                                                                                                                                                                                                                                                                                                                                                                                Sequence 361 AA;
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                                                                                        amino acid sequence SEQ ID NO:3156
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75.0%;
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Search completed: December 17, 2004, 18:29:02 Job time: 32.3933 secs
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                                                                                                                                     Query Match 66.7%;
Best Local Similarity 70.0%;
Matches 7; Conservative
                                                                                                                                                                                                                                      The invention relates to a novel purified or isolated Cryptococcus neoformans nucleic acid molecule comprising a sequence encoding a polypeptide comprising a sequence not given in the specification. A polynucleotide of the invention has fungicide activity, and may have a use in gene therapy. The nucleic acid is useful for preparing a composition for treating an infection caused by Cryptococcus neoformans. The present sequence represents a C. neoformans sequence of the invention. Note: The sequence data for this patent is not represented in the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pat_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 9; SEQ ID NO 3156; 136pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New nucleic acid, useful for preparing a composition for treating an infection caused by Cryptococcus neoformans.
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N-PSDB; ADB69029.
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                                                                                                                                                                                                             Sequence 387 AA;
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24 IKLGTLYRDS 33
                                                                                           1 VKLGTYYFDS 10
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US-09-604-95-30
US-09-107-532A-6082
US-09-107-532A-6082
US-09-107-532A-11090
US-08-379-057-30
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US-09-248-796A-26385
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Sequence 11090, Ap
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Sequence 22, Appl
Sequence 21, Appl
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Sequence 13, Appl
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Sequence 14832, Ap
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Sequence 58, Appl
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Query M Best Lo Matches Qy	SEQ ID NO 8  SEQ ID NO 8  LENGTH: 1  TYPE: PRT  ORGANISM:  FEATURE:  OTHER INF  US-09-225-322	COURTEN CURREN PRIOR	RESULT 1 US-09-225-322 Sequence 8, Patent No. GENERAL INF APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: FILE REFER	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
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Score 54; DB 4; 1 Pred. No. 0.011; Mismatches 0;	of Artificial Sequ	1-05 08/454,680 108/408,133 1 108/292,178 7 07/947,674 7 3-238375	מפ	US-08-976-063E-14 US-09-270-767-56999 US-09-248-796A-15824 US-09-248-796A-18015 US-09-248-796A-18015 US-09-543-681A-4720 US-09-543-681A-4720 US-09-688-188B-92 US-09-291-417D-92 US-09-291-417D-154 US-09-318-52-6167 US-09-198-452A-1104 US-09-573-630A-2 ALIGNMENTS
Length 130; Indels 0; Gaps	Sequence: cDNA KM-641		D CHIMERA ANTIBODY	Sequence 14, Sequence 1589 Sequence 1803 Sequence 1803 Sequence 7783 Sequence 823 Sequence 92, Sequence 154, Sequence 154, Sequence 154, Sequence 503 Sequence 503 Sequence 503 Sequence 503 Sequence 22, Sequence 22, Sequence 21, Sequence 22, Sequence 21, Sequence 318,
0,				Appl 224, A Appl 20, Appl 20, Appl Appl Appl Appl Appl Appl Appl App

RESULT 2
US-09-225-322B-18
; Sequence 18, Application US/09225322B
; Patent No. 6437098 .
; GENERAL INFORMATION:
; GENERAL STARA, KENYA
; APPLICANT: HANAI, NOBUO

HASEGAWA, MAMORU

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FILE REFERENCE: 249-101

CURRENT APPLICATION NUMBER: US/09/225,322B

CURRENT FILING DATE: 199-01-05

PRIOR APPLICATION UNMBER: US 08/454,680

PRIOR FILING DATE: 1995-05-31

PRIOR APPLICATION NUMBER: US 08/408,133

PRIOR APPLICATION NUMBER: US 08/292,178

PRIOR APPLICATION NUMBER: US 08/292,178

PRIOR APPLICATION NUMBER: US 07/947,674

PRIOR APPLICATION NUMBER: US07/947,674

PRIOR APPLICATION NUMBER: US07/947,674

PRIOR FILING DATE: 1992-09-17

PRIOR APPLICATION NUMBER: UF 3-238375

PRIOR APPLICATION NUMBER: UF 3-238375

PRIOR FILING DATE: 1991-09-18
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CURRENT APPLICATION NUMBER: US/09/764,304

CURRENT FILING DATE: 2001-01-19

EARLIER APPLICATION NUMBER: 09/225,322

EARLIER FILING DATE: 1999-01-05

EARLIER FILING DATE: 1995-05-31

EARLIER APPLICATION NUMBER: US 08/454,680

EARLIER APPLICATION NUMBER: US 08/408,133

EARLIER APPLICATION NUMBER: US 08/292,178

EARLIER FILING DATE: 1995-03-21

EARLIER FILING DATE: 1994-08-17

EARLIER APPLICATION NUMBER: US 08/292,178

EARLIER FILING DATE: 1994-08-17

EARLIER APPLICATION NUMBER: US 08/297,674
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SEQ ID NO 18
LENGTH: 130
TYPE: PRT
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SEQ ID NO 8
LENGTH: 130
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  Query Match
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Patent No. 6495666
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                                                                                                                                                                                                                                    EARLIER APPLICATION NUMBER: JP 3-238375
EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
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APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                              FEATURE:
                                                                                                                    ORGANISM: Artificial Sequence
                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: Description of Artificial Sequence:cDNA KM-641
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                                                                      OTHER INFORMATION: cDNA KM-641
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KUWANA, YOSHIHISA
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SEQ ID NO 18
LENGTH: 130
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
                                                                                                                      GENERAL INFORMATION:

APPLICANT: HOGGENBOOM, Hendricus Renerus Jacobus N
APPLICANT: HALER, Michael

APPLICANT: JESPERS, Laurent Stephane Anne Therese
APPLICANT: WINTER, Gregory Paul

TITLE OF INVENTION: Production of chimeric antibo
TITLE OF INVENTION: combinatorial approach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBU
APPLICANT: HASEGAMA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
OTHER INFORMATION: cDNA KM-641
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                            NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                      STREET: 6300 & CITY: Chicago
                            STATE:
                                                                ADDRESSEE: David W. Clough, Marshall O'Toole Gerstein Murray & ADDRESSEE: Borun
            COUNTRY:
                                                                                                                                                                                                                                                                                                     109 VKLGTYYFDS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            109 VKLGTYYFDS 118
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                                                                                                                                                                                                                                                                                                                                                           10;
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60606-6402
                                                                                                                                                                                                                                                                                                                                                                       Similarity
                         Illinois
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                                                    6300 Sears
            USA
                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                          HOOGENBOOM, Hendricus Renerus Jacobus Matteus
                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 54; DB 4; 100.0%; Pred. No. 0.011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                      Tower, 233 South Wacker Drive
                                                                                                            144
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                                                                                                                                                                                                                                                                                                                                                           0
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                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                    chimeric antibodies
                                                                                                                                                                                                                                                                                                                                                                                     DB 4; Length 130;
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy

Floppy disk

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                                       ; LENGTH: 1278
; TYPE: PRT
; ORGANISM: Lactobacillus reuteri
US-09-604-957-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; MOLECULE TYPE: protein US-08-211-202-135
                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-604-957-3
                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3, Application US/09604957
Patent No. 6486314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 77.8%;
Best Local Similarity 87.5%;
Matches 7; Conservative
  Query Match
                                                                                                                     SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                        TITLE OF INVENTION: NOVEL GLUCOSYLTRANSFERASE AND NOVEL GLUCAN FILE REFERENCE: BO 43388 CURRENT APPLICATION NUMBER: US/09/604,957 CURRENT FILING DATE: 2000-06-28 PRIOR APPLICATION NUMBER: 00201871.1 PRIOR FILING DATE: 2000-05-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9120252.3
FILING DATE: 23-SEP-1991
PRIOR APPLICATION DATA:
APPLICATION UNMBER: GB 9120377.8
FILING DATE: 25-SEP-1991
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                               APPLICANT: DIJKHUIZEN, LUBBE
APPLICANT: RAHAOUI, HAKIM
APPLICANT: LEER, ROBERT-JAN
                                                                                                                                     NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                       APPLICANT: VAN GEEL-SCHUTTEN, GERRITDINA HENDRIKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: GB 9206318.9
FILING DATE: 24-MAR-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9206372.6
FILING DATE: 24-MAR-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/211,202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: PCT/OFFILING DATE: 15-MAY-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: 312-474-0448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER: 36,107
REFERENCE/DOCKET NUMBER: 28111/31960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: David W. Clough REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     101
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amino acid
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70.4%;
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  Score 38;
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Pred. No. 1.7;
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  DB
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Length 1278;
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Best Local Similarity
---hes 6; Conserv
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US-09-107-532A-6082
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PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 6788
LENGTH: 94
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: GARY BRETON
APPLICANT: GARY BRETON
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIL)
TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.1802-001
CURRENT APPLICATION NUMBER: US/09/543,681A
CURRENT FILING DATE: 2000-04-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent No. 6583275
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 6788, App
Patent No. 6605709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Proteus mirabilis
                               APPLICATION NUMBER: 60/051571
FILING DATE: JULY 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
                                                                                                                                                                                   CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Lynn A Doucette-Stamm TITLB OF INVENTION: NUCLBIC ACID ENTEROCOCCUS
               TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1221 GTYYFDN 1227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 GTYYFDS 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 LGTYYFDS 10
                                                                                                                                               APPLICATION NUMBER: 60/085,598 FILING DATE: 14 May 1998
                                                                                                                                                                                                                                                                                 COMPUTER: PC
OPERATING SYSTEM: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LGTYYYNS 28
                                                                                                                                                                                                                                                                 SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                            ZIP: 02354
                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                 STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Waltham
                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                       100 Beaver Street
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Pred. No.
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1; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and David Bush
AND AMINO ACID SEQUENCES
PAECIUM FOR DIAGNOSTICS I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 4;
11;
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AND THERAPEUTICS
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RESULT 10
US-09-489-039A-11090
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US-09-134-001C-4951
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Staphylococcus epidermidis US-09-134-001C-4951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-107-532A-6082
                                        GENERAL INFORMATION:
APPLICANT: GATY BETCHON et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PNEUMONIAB FOR DIACNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT APPLICATION NUMBER: 000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 11090
LENGTH: 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 4951, Application US/09134001C

Patent No. 6380370

GENERAL INFORMATION:

APPLICANT: Lynn Doucette-Stamm et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCCUS

TITLE OF INVENTION: REIDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: GTC-007

CURRENT APPLICATION NUMBER: US/09/134,001C

CURRENT FILING DATE: 1998-08-13

PRIOR APPLICATION NUMBER: US 60/064,964

PRIOR PILING DATE: 1997-11-08

PRIOR PILING DATE: 1997-10-08

PRIOR FILING DATE: 1997-08-14

NUMBER OF CEO. TO NOTE: 1997-08-14

NUMBER OF CEO. TO NOTE: 1997-08-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 5674
SEQ ID NO 4951
LENGTH: 388
TYPE: PRT
                                                                                                                                                                                                                                                                                                                      Sequence 11090, Application US/09489039A
Patent No. 6610836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 68.5%;
Best Local Similarity 66.7%;
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 6082: SEQUENCE CHARACTERISTICS:
ORGANISM: Klebsiella pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity 75. nes 6; Conservative
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LOCATION: (B) LOCATION 1...137
SEQUENCE DESCRIPTION: SEQ ID NO: 6082:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGINAL SOURCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  250 RVĠTYYFGŚ 258
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75.0%;
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Pred. No.
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SEQUENCE CHARACTERISTICS:
LENGTH: 118 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
FRAGMENT TYPE: internal
US-08-379-057-30
                                           Query Match
Best Local Similarity
Thes 6; Conserve
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US-08-379-057-30
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Patent No. 5
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Best Local
                                                                                                                                                                                                                                TELEFAX: (206) 727-360
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Gordon, Marcia L.
APPLICANT: Bajorath, Jurgen
APPLICANT: Aruffo, Alejandro A.
APPLICANT: Aruffo, Alejandro A.
TITLE OF INVENTION: Monoclonal Antibodies Specific For
TITLE OF INVENTION: In Different Epitopes of Human gp39 ar
TITLE OF INVENTION: In Diagnosis and Therapy
                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION: TELEPHONE: (206) 727-3670
                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/0
FILING DATE: 26-JAN-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                           NAME: Poor, Brian W.
REGISTRATION NUMBER: 32,928
REFERENCE/DOCKET NUMBER: ON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Seattle
STATE: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
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57
                        5 TYYFDS 10
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5876950
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3005 First Avenue
                                                                                                                                                                                                   118 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
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                                                                                                                                                                                                                                                (206) 727-3601
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Gilliland, Lisa K.
                                                           Conservative
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62
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85.7%;
                                                                          100.0%;
                                                                                        64.8%;
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                                                                          Score 35; pred. No.
                                                                                                                                                                                                                                                                                             ON0133-
                                                           0;
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Pred. No.
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                                                           Mismatches
                                                                                          DB 2;
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                                                                                        Length 118;
                                                             Indels
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RESULT 12
US-09-710-279-1932
; Sequence 1932, Application US/09710279
; Patent No. 6703492
; GENERAL INFORMATION:
; APPLICANT: KIMMERLY, WILLIAM JOHN

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FILE REFERENCE: GTC-007
CURRENT APPLICATION NUMBER: US/09/134,001C
CURRENT FILING DATE: 1998-08-13
PRIOR APPLICATION NUMBER: US 60/064,964
PRIOR FILING DATE: 1997-11-08
PRIOR PPLICATION NUMBER: US 60/055,779
PRIOR PILING DATE: 1997-08-14
NUMBER OF SEQ ID NOS: 5674
SEQ ID NO 4963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 13
US-09-134-001C-4963
; Sequence 4963, Application US/09134001C
; Patent No. 6380370
; Patent No. 6380370
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Best Local Similarity 7
Thehes 6; Conservat
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US-09-491-577-96
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/710,279
CURRENT FILING DATE: 2000-11-09
PRIOR APPLICATION NUMBER: 60/164,258
PRIOR FILING DATE: 1999-11-09
NUMBER OF SEO ID NOS: 4472
SOFTMARE: PATENTIN VET. 2.1
SEO ID NO 1932
LENGTH: 226
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                                                                                                                                                                                                                                                                 Sequence 96, Application US/09491577 Patent No. 6610511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Staphylococcus epidermidis -09-134-001C-4963
APPLICANT: Yale University
APPLICANT: Carlson, John R.
APPLICANT: Kim, Hunhyong
APPLICANT: Clyne, Peter J.
APPLICANT: Warr, Coral G.
TITLE OF INVENTION: No. 6610511el Family of Odorant Receptor Genes in Drosophila
FILE REFERENCE: 44574-5061-US
CURRENT APPLICATION NUMBER: US/09/491,577
CURRENT FILING DATE: 2000-01-25
EARLIER APPLICATION NUMBER: US 60/117,132
EARLIER APPLICATION NUMBER: US 60/117,132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS FILE REFERENCE: PU3480US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PPLICANT: Lynn Doucette-Stamm et al ITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCCUS ITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
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ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ENGTH: 288
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Local Similarity 75.0%;
                                                                                                                                                                                                                                                                                                                                                                                              273 KIGTYCFD 280
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75.0%;
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Pred. No.
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Pred. No.
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US-08-525-539A-41
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                                                                                                                                    US-08-525-539A-41
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SOPTWARE: PatentIn Ver. 2.1
SEQ ID NO 96
LENGTH: 349
TYPE: PRT
                                                                 Query Match 63. Best Local Similarity 75. Matches 6; Conservative
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Best Local Similarity
Matches. 6; Conserv
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                                                                                                                                                                                                                                     TELEX: 706141
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: REC
TITLE OF INVENTION: MC3
TITLE OF INVENTION: MC1
TITLE OF SEQUENCES: 81
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/08/525,539A
RETEXALORS
                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 37,612
REPERENCE/DOCKET NUMBER: 27633-20001.21
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 813-5600
TELEPAX: (415) 494-0792
                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 14-SEP-1995
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: DYLAN, TYLER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: DO COUTO, FERNANDO J.R.
                                                                                                                                                  LENGTH: 19 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: USA
ZIP: 94304-1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: MORRISON & FOERSTER STREET: 755 Page Mill Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 LGTYYF 66
                                 3 LGTYYFDS 10
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LAVYYFDS 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64.8%; Score 35; ilarity 100.0%; Pred. No. Conservative 0; Mismatc
                                                                                   63.0%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RECOMBINANT PEPTIDES DERIVED FROM THE MC3 ANTI-BA46 ANTIBODY, METHODS OF USE METHODS OF HUMANIZING ANTIBODY PEPTIDES
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                                                                                 Score 34;
Pred. No.
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                                                                                 DB 3;
7.3;
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1e+02;
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                                                                                                 Length 19
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                                                                   Gaps
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RESULT 16 US-07-942-245-22 ; Sequence 22, Application US/07942245

INFORMATION:

PEDERSEN, Jan T.

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GENERAL INFORMATION:

APPLICANT: Lynn Doucette-Stamm et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO AC:
TITLE OF INVENTION: ENTEROCOCCUS PAECALIS FOI
FILE REFERENCE: 032796-032
CURRENT APPLICATION NUMBER: US/09/134,000C
CURRENT FILING DATE: 1998-08-13
PRIOR APPLICATION NUMBER: US 60/055,778
PRIOR FILING DATE: 1997-08-15
NUMBER OF SEQ ID NOS: 6812
SOFTWARE: Patentin version 3.1
SEQ ID NO 4879
LENGTH: 271
á
               Query Match
Best Local Similarity
Thes 5; Conserve
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US-09-134-000C-4879
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                                                                                                  ORGANISM: Enterococcus faecalis US-09-134-000C-4879
                                                                                                                                                                                                                                                                                                                                                                      Sequence 4879, Application US/09134000C Patent No. 6617156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION: 530
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 293-7860
TELEPHONE: (202) 293-7860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEX: 6491103
INFORMATION FOR SEQ ID NO:
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: In house
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: HP 9000/700 Workstation
OPERATING SYSTEM: UNIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    y maccn 63.0%;
Local Similarity 75.0%;
les 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 115 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            106 LAVYYFDS 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 LGTYYFDS 10
 1 VKLGTYYF 8
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2100 Pensylvania Avenue, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REES,
ROGUSKA,
GUILD,
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                               Conservative
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                                               63.0%;
62.5%;
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Michael A.
Braydon C.
SURFACE RESIDUE VENEERING OF RODENT
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                               Score 34; DB 4;
Pred. No. 1.2e+02;
2; Mismatches 1
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                                                                                                                                                                                                                                                                                                       ACID SEQUENCES RELATING TO FOR DIAGNOSTICS AND THERAPEUTICS
                                                             Length 271;
                                 Indels
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US-08-252-995D-13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 13,
                                                                                                                                                                        Patent No.
                                                                                                                                                                                       Sequence 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/252,995D
FILING DATE: 02-JUN-1994
CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: KURYONY, Linda M
REGISTRATION UNUBER: 34,971
REFERENCE/DOCKET NUMBER: 3153-96
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (416) 364-7311
TELEFAX: (416) 361-1398
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
                                                                                                                          GENERAL INFORMATION:
APPLICANT: Dennis, James W
APPLICANT: Heffernan, Mike
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
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MOLECULE TYPE: p
ORIGINAL SOURCE:
ORGANISM: Sacc
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ADDRESSEE: BERESKIN & PARR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 14
                                                                           NUMBER OF SEQUENCES: 14
                                                                     CORRESPONDENCE ADDRESS:
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                                          STREET:
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 COUNTRY:
                           CITY: Toronto
                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS:
                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
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47 IQLGVYYF 54
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M5H 3Y2
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Ontario
Y: Canada
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                                                                                                                                                                                      Application US/08834108
                                          40 King Street West
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40 King Street West
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Heffernan, Mike
Fode, Carol
                                                                                                                                                                                                                                                                                                                        Conservative
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                                                       BERESKIN & PARR
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Pred. No.
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 6410, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm
TITLE OF INVENTION: NUCLEIC ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
ORIGINAL SOURCE:
ORGANISM: Sac
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 31
TELECOMMUNICATION INFORMATION:
TELEPHONE: (416) 364-7311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Kurdydyk, Linda M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/834,108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Palana
                                                                     APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: July 2, 1997
ATTORNEY/ACENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: sin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ENGTH: 275 amino acids
                                                                                                                                                                                                                            OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                         ZIP: 02354
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          131 LKLGNIFFDS 140
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                 NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
                                                                                                                                                                                                                                                                                                                                                                                CITY: Waltham
STATE: Massachusetts
                                                                                                                                                                                                                                                                                       COMPUTER: PC
                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 100 Beaver Street
                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: CD/ROM ISO9660
                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
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60.0%;
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Pred. No. 1.2e+02;
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AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 275;
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US-09-134-000C-4931
                                                                                                                                                                                                                                                                                                       US-09-248-796A-14832
                                                                                                                                                                                                                                                                                                                              RESULT 22
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               SEQ ID NO 14832
LENGTH: 373
                                                                                                                     GENERAL INFORMATION:
APPLICANT: Keith Weinstock et al
TITLE OF INVENTION: NUCLEIC ACID AMINO ACID SEQUENCES RELATING
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
TILLE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT FILING DATE: 1999-02-12
PRIOR APPLICATION NUMBER: US/60/074,725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 6812
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4931
LENGTH: 365
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Patent No. 6617156
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                     Sequence 14832, Application US/09248796A Patent No. 6747137
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/134,000C CURRENT FILING DATE: 198-08-13 PRIOR APPLICATION NUMBER: US 60/055,778 PRIOR FILING DATE: 1997-08-15
                                               PRIOR FILING DATE: 1998-02-13
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: LYNN DOUCETTE-Stamm et al TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO TITLE OF INVENTION: ENTEROCOCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS FILE REFERENCE: 032796-032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 6410: SEQUENCE CHARACTERISTICS:
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TYPE: PRT
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SEQUENCE DESCRIPTION: SEQ ID NO: 6410:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: protein HYPOTHETICAL: YES ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                   115 RLGTYYLET 123
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5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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(B) LOCATION 1...319
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55.6%;
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Pred. No.
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Pred. No.
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     RESULT 25
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Best Local Similarity
Matches 5; Conserva
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US-09-248-796A-26385
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Proteus mirabilis US-09-543-681A-6460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIL TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 2709.1002-001

CURRENT APPLICATION NUMBER: US/09/543,681A

CURRENT FILING DATE: 2000-04-05

PRIOR APPLICATION NUMBER: US 60/128,706

PRIOR APPLICATION NUMBER: US 60/128,706

PRIOR FILING DATE: 1999-04-09

NUMBER OF SEQ ID NOS: 8344

SEQ ID NO 6460

LENGTH: 790

TYPE: PRT
                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 26385
LENGTH: 979
TYPE: PRT
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Best Local
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                                                                                                                        Matches
                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 26385, Application US/09248796A Patent No. 6747137
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                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT FILING DATE: 1999-02-12
                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR FILING DATE: 1998-02-13
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Keith Weinstock et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: GARY BRETON
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                                                                                                                                         Local
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ilarity 75.0%;
Conservative
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Pred. No.
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Pred. No. 3.7e+02;
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                                                                                                                     core 34; DB 4; I
ced. No. 4.7e+02;
Mismatches 2;
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US-09-107-532A-5809
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Sequence 5809, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm
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APPLICANT: HOWELL, STEVEN
APPLICANT: HOWELL, STEVEN
APPLICANT: HOWELL, STEVEN
APPLICANT: VAN DER LOGT, CORNELIS PAUL
TITLE OF INVENTION: MULTIVALENT ANTIGEN-BINDING PROTEINS
FILE REFERENCE: 60113/268075/ASH
CURRENT APPLICATION NUMBER: US/09/530,139
CURRENT APPLICATION NUMBER: US/09/6991
PRIOR APPLICATION NUMBER: PCT/EP98/06991
PRIOR APPLICATION NUMBER: PCT/EP98/06991
PRIOR FILING DATE: 1998-10-27
PRIOR APPLICATION NUMBER: DF07808538.4
PRIOR PILING DATE: 1998-10-27
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Candida albicans US-09-248-796A-19774
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APPLICANT: Keith Weinstock et al

APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS

TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS

TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS

TILLE REFERENCE: 107196.132

CURRENT APPLICATION NUMBER: US/09/248,796A

CURRENT FILING DATE: 1999-02-13

PRIOR APPLICATION NUMBER: US 60/074,725

PRIOR APPLICATION NUMBER: US 60/096,409

PRIOR FILING DATE: 1998-03-13

NUMBER OF SEQ ID NOS: 28208

SEQ ID NO 19774

LENGTH: 81
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Patent No.
                                                                                     Matches
                                                                                                                               Query Match
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                                                                                                                                                                                       FEATURE: OTHER INFORMATION: Description of Unknown Organism: Anti-LAB-phage OTHER INFORMATION: fragment
                                                                                                                                                                                                                                                               LENGTH: 124
TYPE: PRT
ORGANISM: Unknown Organism
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o. 6670453
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                         4 GTYYFDS 10
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GTYYADS
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85.7%;
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Pred. No.
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Pred. No.
                                                                                     Mismatches
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and David Bush

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NAME/KEY: misc feature;
LOCATION: (B) LOCATION 1...196;
SEQUENCE DESCRIPTION: SEQ ID NO: 5809:
US-09-107-532A-5809
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US-08-976-063E-14
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                                                                                                                                                                                                                                                                                                                                                         Sequence 14, Application US/08976063E
                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
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CURRENT APPLICATION NUMBER: US/08/976,063E
CURRENT FILING DATE: 1997-11-21
PRIOR APPLICATION NUMBER: 196 49 655.1 GERMANY
PRIOR FILING DATE: 196-11-29
NUMBER OF SEQ ID NOS: 45
SOPTWARE: Patentin Ver. 2.1
3EQ ID NO 14
                                                                                                                                                    APPLICANT: Rabenhorst, Jurgen
TITLE OF INVENTION: SLOWHETIC ENIZMES FOR THE PRODUCTION OF CONIFERYL
TITLE OF INVENTION: ALCOHOL, CONIFERYLALDEHYDE, FERULIC ACID, VANILLI
TITLE OF INVENTION: VANILLIC ACID AND THEIR USE
FILE REFERENCE: BAYET-9998-CAO
FILE REFERENCE: BAYET-9998-CAO
                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (781)893-5007
TELEPAX: (781)893-8277
INFORMATION FOR SEQ ID NO: 5809:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/51571
FILING DATE: July 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: ATINIE110, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
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nee 5; Conserv
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ORGANISM: Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear MOLECULE TYPE: protein HYPOTHETICAL: YES
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COMPUTER: PC
OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
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                                                                                                                                                                                                                                                                     Priefert, Horst
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Pred. No.
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                                                                                                                                                                                                                                                                    Sequence 15824, Application US/09248796A

Patent No. 6747137

GENERAL INFORMATION:
APPLICANT: Keith Weinstock et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.132

CURRENT APPLICATION NUMBER: US/09/248,796A

CURRENT APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR FILING DATE: 1998-02-13
PRIOR FILING DATE: 1998-02-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Homburger et al.

APPLICANT: Homburger et al.

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE ESPERANCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 56999
LENGTH: 229
TYPE: PRT
                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 15824
LENGTH: 265
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Patent No. 6703491
GENERAL INFORMATION:
                                                                                 Query Match
Best Local
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Best Local
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Best Local Similarity
                                                                                                                                                    TYPE: PRT
ORGANISM: Candida albicans
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TYPE: PRT
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mes 5; Conserv
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83
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                                3 LGTYYFDS 10
                                                                 Similarity 5; Conserv
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85.7%;
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Pred. No. 1.5e+02;
0; Mismatches 1
                                                                                   Score 33;
Pred. No.
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                                                                 Mismatches
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US-09-543-681A-4720

; Sequence 4720, Application US/09543681A

; Patient No. 6605709

; Patient No. 605709
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Best Local Similarity
Whiches 5; Conserve
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                                                                                                                                                                                                                                                                                                                      RESULT 33
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TYPE: PRT
; ORGANISM: Klebsiella pneumoniae
US-09-489-039A-7783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-489-039A-7783
GENERAL INFORMATION:

APPLICANT: GARY HERTON

APPLICANT: GARY HERTON

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES

TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 2709.1002-001

CURRENT APPLICATION NUMBER: US/09/543,681A

CURRENT FILING DATE: 2000-04-05

PRIOR APPLICATION NUMBER: US 60/128,706

PRIOR APPLICATION NUMBER: US 60/128,706

PRIOR FILING DATE: 1999-04-09

NUMBER OF SEQ ID NOS: 8344
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APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN

TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS

TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS

TITLE REFERENCE: 107196.132

CURRENT APPLICATION NUMBER: US/09/248,796A

CURRENT FILING DATE: 1999-02-12

PRIOR APPLICATION NUMBER: US 60/074,725

PRIOR APPLICATION NUMBER: US 60/074,725

PRIOR PILING DATE: 1998-02-13

PRIOR PILING DATE: 1998-08-13

NUMBER OF SEQ ID NOS: 28208

SEQ ID NO 18015

LENGTH: 357

TYPE: PRT
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Patent No. 6610836
GENERAL INFORMATION:
APPLICANT: Gary Breton et. al
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SEQ ID NO 7783
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS FILE REFERENCE: 2709.2004001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Candida albicans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                     305 QLGTYYY 311
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75.0%;
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Pred. No. 2.6e+02;
2; Mismatches 0
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GENERAL INFORMATION:

APPLICANT: PLOWMAN, GREGORY

APPLICANT: MARTINEZ, RICARDO

APPLICANT: MARTINEZ, RICARDO

APPLICANT: MAYTE, DAVID

FILE OF INVENTION: STE20-RELATED PROTEIN KINASES

FILE REFERENCE: 038602/0328

CURRENT APPLICATION NUMBER: US/09/688,188B

CURRENT FILING DATE: 2000-10-16

PRIOR APPLICATION NUMBER: 09/291,417

PRIOR APPLICATION NUMBER: 09/291,417

PRIOR APPLICATION NUMBER: 09/291,784

PRIOR APPLICATION NUMBER: 09/081,784

PRIOR FILING DATE: 1998-04-14

PRIOR FILING DATE: 1998-04-14

PRIOR FILING DATE: 1998-04-14
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GENERAL INFORMATION:
APPLICANT: GATY L. Breton et al.
APPLICANT: GATY L. Breton et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: BAUMANNI FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 8230
LENGTH: 766
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Best Local S
Matches 5
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LENGTH: 549
                                  Matches
                                                   Query Match
Best Local
                                                                                                                                                                 SOFTWARE: PatentIn Ver. SEQ ID NO 92
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TYPE: PRT
ORGANISM: Proteus mirabilis
                                                                                                                                   TYPE: PRT
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                                                                                                                   ORGANISM: Murine sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Acinetobacter baumannii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
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nes 5; Conserv
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   3 LGTYYFD 9
                                  Similarity
5; Conserv
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                                                   61.18;
71.48;
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85.7%;
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                                   Score 33; DB .
Pred. No. 6.7e.
1; Mismatches
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Pred. No.
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Pred. No.
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3.9e+02;
                                                   DB 4; 1
6.7e+02;
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5.5e+02;
                                                                  Length 911;
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LGAYYYD 103

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APPLICANT: MARTINEZ, RICARDO
APPLICANT: WHYTE, DAVID
TITLE OF INVENTION: STEZO-RELATED PROTEIN KINASES
FILE REFERENCE: 038602/0328
CURRENT APPLICATION NUMBER: US/09/688,188B
CURRENT FILING DATE: 2000-10-16
PRIOR APPLICATION NUMBER: 09/291,417
PRIOR APPLICATION NUMBER: 09/291,417
PRIOR FILING DATE: 1999-04-14
PRIOR FILING DATE: 1999-04-14
PRIOR FILING DATE: 1999-04-14
PRIOR FILING DATE: 1998-04-14
PRIOR FILING DATE: 1998-04-14
PRIOR FILING DATE: 1998-04-14
PRIOR FILING DATE: 1998-04-14
INMBER OF SEQ ID NOS: 155
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 154
LENGTH: 966
TYPE: PRT
ORGANISM: Murine sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/291,417D;
CURRENT FILING DATE: 1999-04-13;
PRIOR APPLICATION NUMBER: 60/081,784
PRIOR FILING DATE: 1998-04-14
NUMBER OF SEQ ID NOS: 155
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 92
LENGTH: 911
TYPE: PRT
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US-09-688-188B-154
; Sequence 154, Application US/09688188B
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                                                                                                                     RESULT 38
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Sequence 154, Application US/09291417D Patent No. 6680170
GENERAL INFORMATION:
APPLICANT: PLOWMAN, GREGORY
APPLICANT: MARTINEZ, RICARDO
                                                                                                                                                                                                                                                          Best Loc
Matches
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APPLICANT: PLOWMAN, GREGORY
APPLICANT: MARTINEZ, RICARDO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 92, Application US/09291417D
Patent No. 6680170
GENERAL INFORMATION:
APPLICANT: PLOMMAN, GREGORY
APPLICANT: MARTINEZ, RICARDO
APPLICANT: WHYTE, DAVID
TITLE OF INVENTION: STE20-RELATED PROTEIN KINASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
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                                                                                                                                                                                                                                                        Local Similarity nes 5; Conserv
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les 5; Conserv
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71.4%;
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Pred. No. 7.1e+02;
1; Mismatches 1
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Pred. No.
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RESULT 39
US-09-270-767-32459
US-09-270-767-32459; Application US/09270767
Sequence 32459, Application US/09270767
Patent No. 6703491
GENERAL INFORMATION:
FILE REFILE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster
FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT APPLICATION NUMBER: US/09/270,767
UNMBER OF SEQ ID NOS: 62517
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 32459
LENCTH: 180
TYPE: PRT
ORGANISM: Drosophila melanogaster
US-09-270-767-32459
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; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 154
; LENGTH: 966
; TYPE: PRT
; ORGANISM: Murine sp.
US-09-291-417D-154
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                                                                                                                                                                                                                                                    Sequence 5034, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm
TITLE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
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TITLE OF INVENTION: STE20-RELATED PROTEIN KINASES
FILE REFERENCE: 038602/0329
CURRENT APPLICATION NUMBER: US/09/291,417D
CURRENT FILING DATE: 1999-04-13
PRIOR APPLICATION NUMBER: 60/081,784
PRIOR FILING DATE: 1998-04-14
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les 5; Conserv
               COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
COMPUTER: PC
OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 7310
                                                                                                                                                                                                                                                                                                                                                                                                                                          13
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                                                                                                                                                               CITY: Waltham
                                                                                                      ZIP: 02354
                                                                                                                         COUNTRY: USA
                                                                                                                                            STATE: Massachusetts
                                                                                                                                                                                  STREET:
                                                                                                                                                                                                 ADDRESSEE: GENOME THERAPEUTICS CORPORATION
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71.4%;
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Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                    and David Bush
AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
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1.8e+02;
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APPLICATION NUMBER: US/09/107,532A

PRIOR APPLICATION NUMBER: 60/085,598

FILING DATE: 10-Jun-1998

APPLICATION NUMBER: 60/085,598

FILING DATE: 14 May 1998

APPLICATION NUMBER: 60/051571

FILING DATE: 14 May 1998

APPLICATION NUMBER: 60/051571

FILING DATE: 14 May 1998

APPLICATION NUMBER: 60/051571

ATTORNET/ACENT INFORMATION:

PREFERENCE/DOCKET NUMBER: GTC-012

TELECOMMULCATION NUMBER: 40,489

TELEPHONE: (781)893-5007

TELEPHONE: (781)893-5007

TELEPHONE: 11803-8277

INFORMATION FOR SEO ID NO: 5034:

SEQUENCE CHARACTERSTICS:

LENGTH: 264 amino acids

TYPE: amino acids

TYPE: amino acids

TYPE: ADIA SHORT NUMBER: GTC-012

TELECOMUMICATION INFORMATION: LOCATION 1...264

SEQUENCE DESCRIPTION: SEO ID NO: 5034:

US-09-107-532A-5034

US-09-107-532
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GenCore version 5.1.6

Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on:

December 17, 2004, 18:20:33; Search time 19:3258 Seconds (without alignments)

Perfect score: 54

Sequence:

1 VKLGTYYFDS 10

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched:

1589859 seqs, 357834939 residues

Total number of hits satisfying chosen parameters:

1589859 MAXImum DB seq length: 0

Maximum DB seq length: 0

Maximum DB seq length: 20

Moximum Match 0*

Listing first 45 summaries

Published Applications Aa:*

2: /cgn2_6/prodata/2/pubpaa/USOR PUBCOMS.pep:*

3: /cgn2_6/prodata/2/pubpaa/USOR FUBCOMS.pep:*

5: /cgn2_6/prodata/2/pubpaa/USOR FUBCOMS.pep:*

6: /cgn2_6/prodata/2/pubpaa/USOR FUBCOMS.pep:*

9: /cgn2_6/prodata/2/pubpaa/USOR FUBCOMS.pep:*

10: /cgn2_6/prodata/2/pubpaa/U
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

13	12	11	10	v	8	7	0	u	4	w	N		Result
								54					Score
72.2	72.2	72.2	72.2	72.2	72.2	74.1	100.0	100.0	100.0	100.0	100.0	100.0	Query Match Length DB
435	427	424	341	206	195	446	130	130	130	130	130	130	ength
16	15	17	17	17	17	17	14	14	14	14	9	9	8
US-10-437-963-139528	US-10-425-114-46787	US-10-425-115-204801	US-10-425-115-311275	US-10-425-115-204796	US-10-425-115-365506	US-10-739-930-10028	US-10-166-626-18	US-10-166-626-8	US-10-265-713-18	US-10-265-713-8	US-09-764-304-18	US-09-764-304-8	ID
Sequence 139528,	Sequence 46787, A	Sequence 204801,	Sequence 311275,	Sequence 204796,	Sequence 365506,	Sequence 10028, A	Sequence 18, Appl	Sequence 8, Appli	Sequence 18, Appl	Sequence 8, Appli	Sequence 18, Appl	Sequence 8, Appli	Description

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14
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-10-293-41	0-293-418-	-09-880-748-178	80-748-106	-09-880-748-	0-748-105	-09-880-748-4	-424-599-24280	-10-424-599-179	-10-424-599-17854	-10-425-115-26353	-10-437-963-16877	-10-293-418-307	-10-293-418-213	-09-880-748-307	-09-880-748-2	0-437-963-106	-10-425-115-2	-10-781-979-2	82-	-10-782-141-2	-10-424-599-1544	-10-369-493-110	0-320-797-	-10-447-328-4	-10-081-816-3	US-10-424-599-250992	33-245-	-10-243-552-33	US-09-995-749A-2	US-10-424-599-145556	****
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## ALIGNMENTS

RESULT 1

			CDNA KM-641	OTHER INFORMATION: CDN: -09-764-304-8
			Sequence	ORGANISM: Artificial S
				TYPE: PRT
				LENGTH: 130
				SEQ ID NO 8
			2.0	SOFTWARE: PatentIn Ver. 2.0
			•	NUMBER OF SEQ ID NOS: 19
			1991-09-18	EARLIER FILING DATE: 19
			3ER: JP 3-238375	EARLIER APPLICATION NUMBER: JP
			92-09-17	EARLIER FILING DATE: 1992-09-17
			NUMBER: US07/947,674	APPLICATION
			1994-08-17	EARLIER FILING DATE: 19
			NUMBER: US 08/292,178	EARLIER APPLICATION NUM
			95-03-21	FILING DATE
			NUMBER: US 08/408,133	EARLIER APPLICATION NUM
			1995-05-31	EARLIER FILING DATE: 19
			NUMBER: US 08/454,680	
			99-01-05	
			3ER: 09/225,322	
			01-01-19	CURRENT FILING DATE: 2001-01-19
			APPLICATION NUMBER: US/09/764,304	CURRENT APPLICATION NUM
				FILE REFERENCE: 249-101
TRA ANTIBODY	CHIME	HUMANI ZED	CESS FOR PRODUCING	z
			YOSHIHISA	KUWANA,
			'ASA	
			ORU	APPLICANT: HASEGAWA, MAMORU
				APPLICANT: HANAI, NOBUO
			/A	APPLICANT: SHITARA, KENYA
			Ľ	Patent No. US20020026036A1
			JS/09764304	Sequence 8, Application US/09764304
				-09-764-304-8

Query Match

DB 9; Length 130;

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GENERAL INFORMATION:

APPLICANT: SHITARA, KENYA

APPLICANT: HANAI, NOBUO

APPLICANT: HASEGAWA, MANORU

APPLICANT: MIYAJI, HIROWASA

APPLICANT: KUWANA, YOSHIHISA

TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY

FILE REFERENCE: 249-101

CURRENT APPLICATION NUMBER: US/10/265,713

CURRENT APPLICATION NUMBER: US/09/225,322

PRIOR APPLICATION NUMBER: US 08/454,680

PRIOR APPLICATION NUMBER: US 08/454,680
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US-10-265-713-8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 19
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 18
LENGTH: 130
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                     Sequence 8, Application US/10265713
Publication No. US20030095964A1
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CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
EARLIER APPLICATION NUMBER: US 08/454,680
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER APPLICATION NUMBER: US 08/292,178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EARLIER APPLICATION NUMBER: US07/947,674
EARLIER FILING DATE: 1992-09-17
EARLIER APPLICATION NUMBER: JP 3-238375
EARLIER FILING DATE: 1991-09-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tent No. US20020026036A1
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Pred. No.
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                                                                                                                                                                   US-10-265-713-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/10/265,713
CURRENT FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: US/09/225,322
PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
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Best Local S
Matches 10
                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatentIn Ver. 2
SEQ ID NO 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 8
                                                                                  Matches
                                                                                                    Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: HASEGAWA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR FILING DATE: 1991-09-18
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                                                                                                                                                                                                                                                                                                                                                          PRIOR FILING DATE: 1991-09-18
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PRIOR FILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US07/947,674
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                                                                                                                                                                                                        ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                    TYPE: PRT
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                                                                                                                                                                                     OTHER INFORMATION: Description of Artificial Sequence:cDNA KM-641
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APPLICATION NUMBER: US 08/292,178
FILING DATE: 1994-08-17
                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: JP 3-238375
                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 1992-09-17
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109 VKLGTYYFDS
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Pred. No. 0.14;
                                                                                  Mismatches
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RESULT 5 US-10-166-626-8

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PRIOR APPLICATION NUMBER: US 08/292,178
PRIOR FILING DATE: 1994-08-17
PRIOR APPLICATION NUMBER: US07/947,674
PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 8
LENGTH: 130
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER BINEDEMATION. Description of Artificial Sequence
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 18, Appropriate Publication No.
                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/166,626
CURRENT FILING DATE: 2002-06-12
PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: JP 3-238375 PRIOR FILING DATE: 1991-09-18 NUMBER OF SEQ ID NOS: 19
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PRIOR APPLICATION NUMBER: US/09/225,322B
PRIOR FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR APPLICATION NUMBER: US 08/408,133
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/10/166,626
CURRENT FILING DATE: 2002-06-12
                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: 249-101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                   PPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                 PLICANT: KUWANA, YOSHIHISA
TLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lication No. US20030166876A1
                                                                APPLICATION NUMBER: US 08/408,133
FILING DATE: 1995-03-21
APPLICATION NUMBER: US 08/292,178
FILING DATE: 1994-08-17
APPLICATION NUMBER: US07/947,674
FILING DATE: 1992-09-17
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No. US20030166876A1
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KUWANA, YOSHIHISA
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Pred. No.
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Query Match
Best Local Similarity
Best Local Similarity
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                                                  ; OTHER INFORMATION: Clone ID: MRT4577_96506C.1.pep US-10-425-115-365506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-739-930-10028
                                                                                                                                                                                                    APPLICANT: LA ROSA, Thomas J.
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 365506
LENGTH: 195
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NUMBER OF SEQ ID NOS: 11088
SEQ ID NO 10028
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Publication No. US20040216190A1

GENERAL INFORMATION:

APPLICANT: Kovalic, David K.

TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH

TITLE OF INVENTION: PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 10; Conserv
Query Match
Best Local Similarity
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CURRENT APPLICATION NUMBER: US/10/739,930
                                                                                 NAME/KEY: unsure
LOCATION: (1)..(195)
OTHER INFORMATION: unsure
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Triticum aestivum FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                        ORGANISM: Zea mays FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
                                                                                                                                                                                          TYPE: PRT
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72.2%;
87.5%;
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80.0%;
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Pred. No.
 Score
Pred.
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Pred. No. 0.14;
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 39;
 DB 17;
76;
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                  Length 195;
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                                                                                                                                              US-10-425-115-311275
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                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 311275
LENGTH: 341
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SEQ ID NO 204796
LENGTH: 206
TYPE: PRT
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                                                                                        Query Match
Best Local (
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Publication No. US20040214272A1
GENERAL INFORMATION:
                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 72.2%;
Best Local Similarity 87.5%;
Matches 7; Conservative
                                                                                                                                                                                                                                                                                 APPLICANT: La ROSS, Thomas J.
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(5322)B
CURRENT APPLICATION NUMBER: US/10/425,115
CURRENT FILING DATE: 2003-04-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: La Rosa, Thomas J.
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Zea mays
FEATURE:
FEATURE:
LOCATION: (1)..(206)
OTHER INFORMATION: unsure at all Xaa locations
FEATURE:
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CURRENT FILING DATE: 2003-04-28
                                                                                                                                                             OTHER INFORMATION: Clone ID: MRT4577_46938C.1.pep
                                                                                                                                                                                ORGANISM: Zea mays FEATURE:
                                                             72.2%;
Local Similarity 87.5%;
les 7; Conservation
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                                   3 LGTYYFDS 10
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Pred. No. 80;
                                                                                        Score 39; DB 17; Length 341; Pred. No. 1.3e+02;
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Publication No. US20040214272A1
GENERAL INFORMATION:
APPLICANT: La Rosa, Thomas J.
APPLICANT: Kovalic, David K.
APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
FULE REFERENCE: 38-21(5322)B
FULE REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
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Publication No. US20040034888A1
                                                                                                                                       Matches
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Best Local (
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SEQ ID NO 46787
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APPLICANT: Zhou, Yihua
APPLICANT: Kovalic, David K.
APPLICANT: Screen, Steven E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILLE REFERENCE: 38-21(53313) B
CURRENT APPLICATION NUMBER: US/10/425,114
CURRENT FILING DATE: 2003-04-28
ANTHORS OF TH MORG. 73128
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ORGANISM: Zea mays
FEATURE:
NAME/KEY: unsure
LOCATION: (1)..(424)
OTHER INFORMATION: unsure at all Xaa locations
                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 427
TYPE: PRT
ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Clone ID: 700799057_FLI.pep
                                                                                                                                                                                                                                                                                                                                                        FEATURE:
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150
                                                                                                                                Similarity
7; Conserv
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LGQYYFDS 157
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                                                                                                                                                                    72.2%;
                                                                                                                                   Score 39; DB
Pred. No. 1.7e
0; Mismatches
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Pred. No.
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                                                                                                                                                                    DB 15;
1.7e+02;
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                                                                                                                                                                                                         Length 427;
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RESULT 13

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement FILE REFERENCE: 38-21 (53221) B CURRENT APPLICATION NUMBER: US/10/437,963 CURRENT FILING DATE: 2003-05-14 NUMBER OF SEQ ID NOS: 204966 SEQ ID NOS: 204966
                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 369326
SEQ ID NO 204798
LENGTH: 572
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 204798, Application US/10425115
Publication No. US20040214272A1
GENERAL INFORMATION:
                                                                                                  Query Match
Best Local (
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APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
CURRENT APPLICATION UNMBER: US/10/425,115
CURRENT APPLICATION UNMBER: 2003-04-28
CURRENT FILING DATE: 2003-04-28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: Clone ID: PAT_MRT4530_40810C.1.pep -10-437-963-139528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: La Rosa, Thomas J. APPLICANT: Kovalic, David K. APPLICANT: Zhou, Yihua
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ORGANISM: Oryza sativa
FEATURE:
                                                                                                                                                                                                                       NAME/KEY: unsure
LOCATION: (1)..(572)
OTHER INFORMATION: unsure at all Xaa locations
                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Zea mays
                                                                                                                                                                                                          FEATURE
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es 7; Conserv
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355 LGQYYFDS 362
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                                      3 LGTYYFDS 10
                                                                             h 72.2%;
Similarity 87.5%;
7; Conservative
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Barbazuk, Brad
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ilarity 87.5%;
Conservative
                                                                                                                                                                                MRT4577_118365C.1.pep
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Pred. No. 1.7e
0; Mismatches
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                                                                                                  Score 39; DB 17; Length 572; Pred. No. 2.2e+02;
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1.7e+02;
                                                                               1; Indels
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RESULT 15 US-10-424-599-145556

US-10-243-552-339

GENERAL INFORMATION:

APPLICANT: Tang, Y. Tom APPLICANT: Yang, Yongho

Yang, Wang, Weng,

, Yonghong , Zhiwei , Gezhi

APPLICANT:

Sequence 339, Application US/10243552 Publication No. US20030224379A1

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Query Match
Best Local Similarity
Thes 7; Conservi
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                                                       Query Match
Best Local Similarity
Matches 6; Conserve
                                                                                                                                                       ; TYPE: PRT ; ORGANISM: Lactobacillus reuteri US-09-995-749A-2
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APPLICANT: VAN GEEL-SCHUTTEN, GERRITDINA HENDRIKA
APPLICANT: DIJKHUIZEN, LUBBERT
APPLICANT: RAHAOUI, HAKIM
APPLICANT: LEER, ROBERT-JAN
APPLICANT: LEER, ROBERT-JAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 145556, Application US/10424599 Publication No. US20040031072A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                      SOFTWARE: PatentIn Ver. SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/09995749A Patent No. US20020155568A1
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SEQ ID NO 145556
LENGTH: 48
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APPLICANT: Kovalic David K
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5323)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: 09/604,957
PRIOR FILING DATE: 2000-06-28
PRIOR APPLICATION NUMBER: EPO 00201871.1
                                                                                                                                                                                                                                                                             PRIOR FILING DATE: 2000-05-25
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/995,749A
CURRENT FILING DATE: 2001-11-29
                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: NOVEL GLUCOSYLTRANSFERASES FILE REFERENCE: BO43388-CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: Clone ID: PAT_MRT3847_102456C.1.pep
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                   LENGTH: 1781
1724 GTYYFDN 1730
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                      4 GTYYFDS 10
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                                                                          Conservative
                                                                                               70.4%; Score 38; 85.7%; Pred. No.
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Pred. No.
                                                                                               DB 9;
1e+03;
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ILE REFERENCE: 807A

ITLE OF INVENTION: Novel nucleic Acids and ITLE OF INVENTION: Polypeptides

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                        Query Match
Best Local Similarity
Thes 7; Conserve
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                                                                                                                            ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-833-245-1319
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US-10-243-552-339
                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: 60/256, 931
PRIOR FILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: 60/199, 384
PRIOR FILING DATE: 2000-04-25
NUMBER OF SEQ ID NOS: 2267
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 1119
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Matches
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Publication No. US20040010134A1
GENERAL INFORMATION:
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SEQ ID NO 339
LENGTH: 179
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                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/833,245
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: 60/229, 358
PRIOR FILING DATE: 2000-04-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Albumin Fusion Proteins FILE REFERENCE: PF546PCT
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PRIOR FILING DATE: 2001-02-26
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PRIOR FILING DATE: 2001-01-25
PRIOR APPLICATION NUMBER: US 09/491,404
PRIOR FILING DATE: 2000-01-25
PRIOR FILING DATE: 2000-01-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: US 09/488,725
PRIOR FILING DATE: 2000-01-21
PRIOR APPLICATION NUMBER: US 09/552,317
PRIOR FILING DATE: 2000-04-25
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CURRENT FILING DATE: 2002-09-12
PRIOR APPLICATION NUMBER: US 60/322,511
PRIOR FILING DATE: 2001-09-13
PRIOR APPLICATION NUMBER: PCT/US00/35017
PRIOR FILING DATE: 2000-12-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Human Genome Sciences, Inc.
                                                                                                                                                                                              LENGTH: 380
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les 7; Conserv
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                                              Conservative
                                                                68.5%;
87.5%;
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                                                              Score 37; DB 11; Length 380; Pred. No. 3.2e+02;
                                            Mismatches
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                                            Indels
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US-10-424-599-250992
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                                                                          US-10-447-328-42
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                                                                                            RESULT 21
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                                                                                                                                                                                                                                                                                                             APPLICANT: Axel, Richard
APPLICANT: Axel, Richard
APPLICANT: Scott, Kristin
TITLE OF INVENTION: Chemosensory Gene Family Encoding Gustatory And Olfactory Receptor
TITLE OF INVENTION: Uses Thereof
FILE REFERENCE: 0575/64019-A/JPW/ADM
CURRENT APPLICATION NUMBER: US/10/081,816
CURRENT FILING DATE: 2002-02-22
PRIOR APPLICATION NUMBER: 60/271,319
PRIOR FILING DATE: 2001-02-23
NUMBER OF SEQ ID NOS: 116
SOFTWARE: Patentin version 3.1
SEQ ID NO 35
LENGTH: 361
TYPE: PRT
ORGANISM: Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 35, Application US/10081816
Publication No. US20030045472A1
GENERAL INFORMATION:
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SEQ ID NO 250992
LENGTH: 73
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Sequence 42, Application US/10447328
Publication No. US20040003419A1
GENERAL INFORMATION:
APPLICANT: Carlson, John R.
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Best Local Similarity
Matches 6; Conserv
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Matches 6; Conserv
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APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5323)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Glycine FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: Clone ID: PAT_MRT3847_68675C.1.pep
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75.0%;
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Pred. No.
                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                  4.6e+02;
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RESULT 23
US-10-369-493-11075
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Best Local
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 3156
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                                                                                                                                                        Sequence 11075, Application US/10369493 Publication No. US20030233675A1 GENERAL INFORMATION:
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APPLICANT: Wale University
TITLE OF INVENTION: No. US20040003419A1el Taste Receptors in Drosophila
FILE REFERENCE: 44574-5072
CURRENT APPLICATION NUMBER: US/10/447,328
CURRENT FILING DATE: 2003-05-29
PRIOR APPLICATION NUMBER: US/09/593,519
PRIOR FILING DATE: 2000-06-14
PRIOR FILING DATE: 2000-06-14
PRIOR FILING DATE: 1999-06-14
PRIOR FILING DATE: US/09/593,519
PRIOR FILING DATE: US/09/593,668
PRIOR FILING DATE: US/09/593,668
PRIOR FILING DATE: 1999-06-14
PRIOR FILING DATE: 1999-06-14
PRIOR FILING DATE: 2000-02-10
NUMBER: OF SEQ. ID NOS: 94
                                      APPLICANT:
APPLICANT:
TITLE OF IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/10/320,797
CURRENT FILING DATE: 2002-12-16
PRIOR APPLICATION NUMBER: 60/341,261
PRIOR FILING DATE: 2001-12-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: IDENTIFICATION OF ESSENTIAL GENES OF CRYPTOCOCCUS NEOFORMANS TITLE OF INVENTION: METHODS OF USE FILE REFERENCE: 10182-021-999
                                                                     APPLICANT: Cao, Yongwei
APPLICANT: Hinkle, Gregory J
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Eroshkin, Alexey M. APPLICANT: Zamudio, Carlos
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ORGANISM: Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
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F: Chen, Xianfeng
INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
INVENTION: PLANTS WITH IMPROVED PROPERTIES
                                                                                                                                                                                                                                                                                                                                             1 VKLGTYYFDS 10
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Pred. No.
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Pred. No. 4.6e+02;
1; Mismatches 1
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APPLICANT: Kovalic David K
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT ELLING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 154451
                                                                                                                                                                                            Sequence 21, Applica Publication No. US20 GENERAL INFORMATION:
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PRIOR FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 11075
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Best Local Similarity
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Best Local Similarity
TITLE OF INVENTION: AXMI-014, A Delta-Endotoxin TITLE OF INVENTION: Methods for Its Use FILE REFERENCE: 045600/274143
CURRENT APPLICATION NUMBER: US/10/782,141
CURRENT FILING DATE: 2004-02-20
                                                                                             APPLICANT: Carozzi, Nadine
APPLICANT: Hargiss, Tracy
APPLICANT: Koziel, Michael G.
APPLICANT: Duck, Nicholas B.
APPLICANT: Carr, Brian
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CURRENT APPLICATION NUMBER: US/10/369,493
CURRENT FILING DATE: 2003-02-28
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TYPE: PRT
ORGANISM: Glycine max
FEATURE:
FEATURE: Unsure
LOCATION: (1)...(440)
OTHER INFORMATION: unsure at all Xaa locations
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TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                    154 LGQYYFDT 161
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No. US20040197917A1
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Pred. No.
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Pred. No. 5.6e+02
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APPLICANT: Carozzi, Nadine
APPLICANT: Hargiss, Tracy
APPLICANT: Koziel, Michael G.
APPLICANT: Duck, Nicholas B.
APPLICANT: Duck, Nicholas B.
APPLICANT: Carr, Brian
TITLE OF INVENTION: AXMI-008, A Delta-Endotoxin Ger
TITLE OF INVENTION: Methods for Its Use
FILE REFERENCE: 045600/274147
CURRENT APPLICATION NUMBER: US/10/781,979
CURRENT FILING DATE: 2004-02-20
PRIOR APPLICATION NUMBER: 60/448,797
PRIOR FILING DATE: 2003-02-20
INUMBER OF SEQ ID NOS: 28
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 23
LENGTH: 675
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US-10-781-979-23
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US-10-782-096-22
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; LENGTH: 675
; TYPE: PRT
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SEQ ID NO 22
LENGTH: 675
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CURRENT APPLICATION NUMBER: US/10/782,096
CURRENT FILING DATE: 2004-02-19
PRIOR APPLICATION NUMBER: 60/448,633
PRIOR APPLICATION NUMBER: 60/448,633
PRIOR FILING DATE: 2003-02-20
NUMBER OF SEQ ID NOS: 23
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APPLICANT: Hargiss, Tracy
APPLICANT: Koziel, Michael G.
APPLICANT: Duck, Nicholas B.
APPLICANT: Carr, Brian
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NUMBER OF SEQ ID NOS: 23
SOFTWARE: FastSEQ for Windows
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nes 6; Conservative
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les 6; Conserv
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Pred. No. 8.5e+02;
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; OTHER INFORMATION: Clone ID: MRT4577_178164C.1.pep
US-10-425-115-270359
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US-10-425-115-270359
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Best Local Similarity 85...
Generative
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SEQ ID NO 270359
LENGTH: 859
TYPE: PRT
ORGANISM: Zea mays
                                                                                      APPLICANT: Li, Ping
APPLICANTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(55221)8
CURRENT APPLICATION NUMBER: US/10/437,963
CURRENT FILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
SEQ ID NO 106243
LENGTH: 931
TYPE: PRT
TYPE: PRT
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Publication No. US20040214272A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 106243, Application US/10437963
Publication No. US20040123343A1
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Best Local Similarity
Matches 6; Conserv
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APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants
FILE REFERENCE: 38-21(53222)B
                                                                                                                                                                                                                                                                                                                                                           APPLICANT: La Rosa, Thomas J. APPLICANT: Kovalic, David K. APPLICANT: Zhou, Yihua
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PEATURE:
NAME/KEY: unsure
LOCATION: (1)..(931)
OTHER INFORMATION: unsure at all
FEATURE:
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Wu, Wei
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85.7%;
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    Mismatches

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Pred. No.
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Pred. No. 8.5e+02
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                    Xaa locations
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RESULT 30
US-09-880-748-2132
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US-09-880-748-2132
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PRIOR FILING DATE: 2000-06-15
PRIOR PELICATION NUMBER: 60/240,816
PRIOR PELICATION NUMBER: 60/276,248
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR FILING DATE: 2001-03-21
PRIOR PELICATION NUMBER: 60/293,499
PRIOR FILING DATE: 2001-05-25
                                     PRIOR APPLICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2000-10-17
PRIOR PELICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR PELICATION NUMBER: 60/277,379
PRIOR PILING DATE: 2001-03-21
PRIOR PILING DATE: 2001-03-21
PRIOR FILING DATE: 2001-05-25
NUMBER: 0F SEQ ID NOS: 3239
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SEQ ID NO 2132
LENGTH: 23
TYPE: PRT
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Best Local :
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Best Local
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SEQ ID NO 3076
                                                                                                                                                                                                                                 APPLICANT: Ruben et al.

TITLE OF INVENTION: Antibodies that Immunospecifically Bind FILE REFERENCE: PF523
CURRENT APPLICATION NUMBER: US/09/880,748
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-15
PRIOR FILING DATE: 2000-06-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE: PF523
CURRENT APPLICATION NUMBER: US/09/880,748
CURRENT FILING DATE: 2001-06-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Ruben et al
                    SOFTWARE: PatentIn Ver.
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85.7%;
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             Sequence 3076, Application US/10293418

Publication No. US20030223996A1

GENERAL INFORMATION:
APPLICANT: Ruben et al.

TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523P2

CURRENT FILING DATE: 2002-11-27

PRIOR APPLICATION NUMBER: 06/331,469

PRIOR APPLICATION NUMBER: 60/31,469

PRIOR FILING DATE: 2001-11-16

PRIOR PILING DATE: 2001-12-19

PRIOR APPLICATION NUMBER: 60/30,48

PRIOR FILING DATE: 2001-06-15

PRIOR FILING DATE: 2001-06-15

PRIOR FILING DATE: 2001-06-15

PRIOR FILING DATE: 2001-06-15
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; ORGANISM: Homo sapiens
US-09-880-748-3076
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US-10-293-418-2132
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US-10-293-418-3076
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SEQ ID NO 2132
LENGTH: 23
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GENERAL INFORMATION:
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Best Local Similarity 55.
Matches 5; Conservative
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CURRENT FILING DATE: 2002-11-27
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TYPE: PRT
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PRIOR APPLICATION NUMBER: 09/880,748
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PRIOR FILING DATE: 2001-11-16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 60/240,816
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APPLICATION NUMBER: 60/293,499
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55.6%;
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55.6%;
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Pred. No.
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Pred. No.
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RESULT 35
US-10-425-115-263537
; Sequence 263537, Application US/10425115
; Publication No. US20040214272A1
; GENERAL INFORMATION:
; APPLICANT: La Rosa, Thomas J.
; APPLICANT: Kovalic, David K.
; APPLICANT: Kovalic, David K.
; APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-437-963-168775; Sequence 168775, Application US/10437963; Publication No. US20040123343A1
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US-10-437-963-168775
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PRIOR FILING DATE: 2001-03-21
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-16
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NUMBER OF SEQ ID NOS: 3247
SEQ ID NO 3076
LENGTH: 23
TYPE: PRT
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SEQ ID NO 168775
LENGTH: 118
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Matches 6; Conserva
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APPLICANT: Li, Ping
APPLICANT: Li, Ping
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (53221)B
CURRENT APPLICATION NUMBER: US/10/437,963
CURRENT FILING DATE: 2003-05-14
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APPLICANT: Kovalic, David
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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NAME/KEY: unsure
LOCATION: (1)..(118)
OTHER INFORMATION: unsure at all Xaa locations
FEATURE:
FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kovalic, David K.
Zhou, Yihua
                                                                                                                                                                                                                    VGVSTYYFDT 51
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Wu, Wei
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Pred. No.
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Pred. No. 2.2e+02;
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                                                                                                                                                                                                                             RESULT 37
US-10-424-599-179462
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US-10-424-599-178546
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: LA ROSA Thomas J
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5322)B
FULE REPERENCE: 38-21(5322)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT PILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 178546
LENGTH: 139
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Best Local S
Matches 7
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Publication No. US20040031072A1
GENERAL INFORMATION:
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SEQ ID NO 263537
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Best Local
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             APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE:
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NAME/KEY: unsure
LOCATION: (1)..(138)
OTHER INFORMATION: unsure at all Xaa locations
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Pred. No.
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Pred. No.
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            CURRENT APPLICATION NUMBER: US/09/880,748
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILLING DATE: 2000-06-15
PRIOR APPLICATION NUMBER: 60/240,816
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR FILING DATE: 2001-03-16
PRIOR PILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/277,379
PRIOR APPLICATION NUMBER: 60/293,499
PRIOR FILING DATE: 2001-05-25
NUMBER OF SEQ ID NOS: 3239
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CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 242803
LENGTH: 172
TYPE: PRT
ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                       Sequence 4, Application US/09880748 Publication No. US20030059937A1 GENERAL INFORMATION:
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SEQ ID NO 179462
LENGTH: 139
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Best Local Similarity
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TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
                                                                                                                                                                                                                                                                                                                                  APPLICANT: Ruben et al.
TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
                                                                                                                                                                                                                                                                                                                           FILE REFERENCE: PF523
OFTWARE: PatentIn Ver.
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FEATURE:
OTHER INFORMATION: Clone ID:
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Local Similarity 87.5%;
1e8 7; Conservative
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Pred. No. 3.3e+02;
0; Mismatches 1; Indels
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-880-748-1054
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Best Local Similarity
Watches 5; Conserve
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; TYPE: PRT
; ORGANISM; Homo sapiens
US-09-880-748-4
Search completed: December 17, 2004, 18:37:59
Job time : 20.3258 secs
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NUMBER OF SEQ ID NOS: 3239
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 1054
LENGTH: 255
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                                                                                                                               Best Local Similarity
Matches 5; Conserv
                                                                                                                                                               Query Match
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PRIOR ETILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/276,248
PRIOR PILING DATE: 2001-03-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/880,748
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/212,210
PRIOR FILING DATE: 2000-06-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Ruben et al.
TITLE OF INVENTION: Antibodies that Immunospecifically Bind BLyS
FILE REFERENCE: PF523
                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: 60/293,499
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                                                               112 INVGPYYFD 120
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244.665 Million cell updates/sec
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PIR_79:*
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pir2: *
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847
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G88851
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A32189
S09831
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F90257
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E72331
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N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
B64596	A84460	AI0513	A48144	G90284	AD1818	F64186	A45472	C64883	T48055	T08150	B71856	A64659	B81307	D85750	C70424
													•		

## ALIGNMENTS

ucharacterized protein, CGSB homolog [imported] - Clostridium acetobutylicum C;Species: Clostridium acetobutylicum C;Date: 14-Sep-2001 #sequence\_revision 14-Sep-2001 #text\_change 09-Jul-2004 C;Accession: D97168

Clog

RESULT D97168

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R;Andris, J.S.; Johnson, S.; Zolla-Pazner, S.; Capra, J.D.

Proc. Natl. Acad. Sci. U.S.A. 88, 7783-7787, 1991

A;Title: Molecular characterization of five human anti-human immunodeficiency virus type
A;Reference number: A41287; MUID:91352074; PMID:1909030

A;Accession: B41287
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-144 <AND>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Nolling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; L.; Daly, M.J.; Bennett, G.N.; Koonin, E.V.; Smith, D.R.
J. Bacteriol. 183, 4823-4838, 2001
A;Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium A;Reference number: A36900; MUID:21359325; PMID:21359325
A;Accession: D97168
A;Status: preliminary
                                                                                                   A;Cross-references: GB:M67504; NID:g185413; PIDN:AAA52946.1; PID:g185414 (;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin C;Keywords: heterotetramer; immunoglobulin fomology <IMM>
                                                                                                                                                                                                                                                                                                                                                              Ig heavy chain precursor V-V region (257-D) (anti-HIV-1) - human C;Species: Homo sapiens (man). C;Date: 21-Apr-1992 #sequence_revision 21-Apr-1992 #text_change 21-Jan-2000 C;Accession: E41287
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A;Residues: 1-456 <KUR>
A;Cross-references: UNIPROT:Q97H36; GB:AE001437; PIDN:AAK80135.1; PID:g15025172; GSPDB:Gh
A;Experimental source: Clostridium acetobutylicum ATCC824
Query Match
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A;Gene: CAC
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coat protein VP1 - minute virus of mice C;Species: minute virus of mice, murine parvovirus C;Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_cha C;Accession: A03700 R;Astell, C.R.; Thomson, M.; Merchlinsky, M.; Ward, D.C. Nucleic Acids Res. 11, 999-1018, 1983 A;Title: The complete DNA sequence of minute virus of mice, A;Reference number: A03696; MUID:83143341; PMID:6298737 A;Accession: A03700
                                                                                                                                                                                                                                                                                                   Coat protein VP1 - parvovirus LuIII
C;Species: parvovirus LuIII
C;Date: 17-Feb-1994 #sequence_revision 17-Feb-1994 #text_change 09-Ju1-2004
C;Accession: B44276
R;Diffoot, N.; Chen, K.C.; Bates, R.C.; Lederma, M.
Virology 192, 339-345, 1993
A;Title: The complete nucleotide sequence of parvovirus LuIII and localization of a 1A;Reference number: A44276; MUID:93297126; PMID:8517025
A;Recession: B44276
A;Recession: B44276
A;Residues: translation not shown
A;Residues: 1-587 cDIF>
A;Rosidues: 1-587 cDIF>
A;Cross-references: UNIPROT:P36310; GB:M81888
C;Superfamily: parvovirus coat protein
C;Reywords: coat protein; glycoprotein
C;Reywords: coat protein; glycoprotein
C;Reywords: coat protein; glycoprotein
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Pred. No. 1e+0
1; Mismatches
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1e+02;
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    Query Match
Best Local
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Coat protein VP1 - minute virus of mice (strain MVMi)
C;Species: minute virus of mice, murine parvovirus
C;Species: minute virus of mice, murine parvovirus
C;Deccies: minute virus of mice, murine parvovirus
C;Accession: B23008; B29510
R;Sahli, R; McMaster, G.K.; Hirt, B.
Nucleic Acids Res. 13, 3617-3633, 1985
A;Title: DNA sequence comparison between two tissue-specific variants of the auton A;Reference number: A23008; MUID:85242059; PMID:3855242
A;Accession: B23008
A;Accession: B23008
A;Molecule type: DNA
A;Residues: 1-718 <SAH>
A;Cross-references: UNIPROT:P07302; EMBL:X02481; NID:g60918; PIDN:CAB46507.1; PID: R;Astell, C.R.; Gardiner, E.M.; Tattersall, P.
J. Virol. 57, 656-669, 1986
A;Title: DNA sequence of the lymphotropic variant of minute virus of mice, MVM(i), A;Accession: B29510; MUID:86115415; PMID:3502703
A;Accession: B29510; MUID:86115415; PMID:3502703
                                                                  A; Molecule type: DNA
A; Residues: 1-847 < KAN>
A; Cross - references: UNIP
A; Note: the nucleotide s
C; Genetics:
A; Start codon: GTG
                                                                                                                                                                                                                                                                                                                           hypothetical protein - Synechocystis sp. (strain PCC 6803)
C;Species: Synechocystis sp.
A;Variety: PCC 6803
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 09-Jul-2004
C;Accession: S75975
C;Accession: S75975
R;Kaneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyo, K.; Okumura, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, DNA Res. 3, 109-136, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Molecule type: DNA
A;Residues: 1-143;/A;,145-718 <AST>
A;Cross-references: EMBL:M12032
C;Superfamily: parvovirus coat prot
C;Keywords: coat protein
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A; Residues: 1-716 < AST>
A; Residues: 1-716 < STP
A; Cross-references: UNIPROT: P03137; EMBL: V01115
C; Superfamily: parvovirus coat protein
C; Keywords: coat protein
                                                                                                                                                                                                            A;Reference number: S74322; MUII
A;Accession: S75975
A;Status: nucleic acid sequence
                                                                                                                                                                                                                                                                                                             A;Title: Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis
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                                                                                                                   UNIPROT:Q55476; EMBL:D64006; ide sequence was submitted to
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85.7%;
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                                                                                                                   GB:AB001339; NID:gl001291; PIDN:BAA1082; the EMBL Data Library, June 1996
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Yamada, M.; Yasuda,
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Similarity

70.4%;

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38; No.

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RiTheologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H. ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, C.A.; Li, J.H.; Li, Y.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R. Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H. Rizzo, M.; Rooney, T.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, Ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
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A; Residues: 1-921 < SKE>
                                                                                                                                                                                                                                                                                                                                                                                A;Accession: S49965
                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Saccharomyces cerevisiae
C;Date: 28-May-1993 #sequence_revision
C;Accession: S49965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        probable membrane protein YIL017c - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein YI3299.14c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: DNA
A; Residues: 1-907 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Accession: A86460
                                                                                                                                                                                                                                         A; Map position:
                                                                                                                                                        ;Keywords: transmembrane protein
;145-161/Domain: transmembrane #status
;532-548/Domain: transmembrane #status
                                                                                                                                                                                                                                                   Gene: SGD:VID28; MIPS:YIL017c;Cross-references: SGD:S0001279
                                                                                                                                                                                                                  Superfamily: Saccharomyces cerevisiae probable membrane
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                                                                                                 Local Similarity
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Local Similarity 85.7%;
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  VGTYYFD
                                     LGTYYFD 9
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                                                                                               70.4%;
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                                                                                               Score 38; DB
Pred. No. 51;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                        December 1994
                                                                               Mismatches
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                                                                                                                  DB 2;
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.S.; Maiti, R.; Ma
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war, K.;
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RESULT

hypothetical protein T12C14.70 - Arabidopsis thaliana

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C;Accession: C69872

C;Accession: C69872

C;Accession: C69872

C;Accession: C69872

C;Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; Choi A; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Exrington, J.; Fabret, C.; Ferrari, E. Nature 390, 249-256, 1997

A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Gallerciech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.F.; Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois, A.; Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Maueel, Y. M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portetelle, R.; Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Seror, A; Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Seror, Akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Toganoi, A.; Tosato, V.; Uchiyama, A; H.; Danchi, A.; Yata, K.; Yoshida, K.; A; Scoffone, F.; Schrooni, A.; Tosato, V.; Uchiyama, A; Feference number: A6980; MUID:98044033; PMID:9364377

A;Accession: C69872

A;Control of the complete sequence of the Gramenos of the complete in the complete sequence of the Gramenos of the complete sequence of the complete sequence of the Gramenos of the complete sequence of the complete sequence of the Gramenos of the complete sequence of t
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A;Description: Arabidopsis thaliana chromosome 1 BAC F8K4 sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein ylaE - Bacillus subtilis
C;Species: Bacillus subtilis
C;Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 09-Jul-2004
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"her 7; Conserve
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A;Molecule type: DNA
A;Residues: 1-814 < CYS>
A;Cross-references: UNIPROT:O80692; EMBL:ACO04392; NID:g3282170; PID:g3367532; GSPDB:GNO(
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T02130
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                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: UNIPROT:007629; GB:Z99111; GB:AL009126; NID:g2633699; PIDN:CAB13348
A;Experimental source: strain 168
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A;Reference number: Z14574
A;Accession: T02130
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 05-Mar_1999 #sequence_revision 05-Mar-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Residues: 1-203 <KUN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: DNA
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Best Local
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                                                                                                                                              Matches
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                                                                                                                                          Similarity 6; Conserv
                                                                   GTYYFDS 10
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70.0%;
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Pred. No.
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27;
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R.She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redd arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J. submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: UNIPROT:Q9LZQ3; EMBL:AL162507
A;Experimental source: cultivar Columbia; BAC clor
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 09-Jul-2004
C;Accession: T48029
A;Gene:
                                                                                                                 submitted to the EMBL Data Library, A;Reference number: Z21043
A;Accession: T31541
                                                                                                                                                                          R;Matthews, L.
                                                                                                                                                                                        C; Date: 29-Oct-1999
C; Accession: T31541
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-361 <BAR>
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A; Accession: T48029
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                                                                  A; Molecule type: DNA
A; Residues: 1-222 <WIL>
                                                                                                                                                                                                                         hypothetical protein Y47D3A.9 - Caenorhabditis elegans (fragment)
C;Species: Caenorhabditis elegans
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                   C;Genetics:
                                                A; Cross-references: EMBL: AL117202; PIDN: CAB57890.1;
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A; Residues: 1-637 < KUR>
                                A; Experimental source:
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C;Species: Sulfolobus solfataricus
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Best Local S
Matches 6
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                                   clone Y47D3A
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66.7%;
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Pred. No.
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Pred.
                                                                                                                                                      October 1999
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                              VKLGTYYFDS
VKLGNYYLNT
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hypothetical protein TM0812 - Thermotoga maritima (strain MSB8)
C;Species: Thermotoga maritima
C;Species: Thermotoga maritima
C;Date: 11-Unn-1999 #sequence_revision 11-Unn-1999 #text_change 09-Jul-2004
C;Date: 11-Unn-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
C;Accession: E72331
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, R;Nelson, K.E.; Clayton, R.A.; Gotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richard Garrett, M.M.; Phillips, C.A.; Richard Garrett, M.M.; Phillips, C.A.; Ph
                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Reference number: A72200; MUID:99287316; PMID:10360571
A;Accession: E72331
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A;Note: this sequence was submitted to the EMBL Data Library, December 1989
C;Keywords: glycoprotein; transmembrane prottein
F;1-29/Domain: signal sequence #status predicted <SIG>
F;26-228/Product: hypothetical protein UL9 #status predicted <MAT>
F;187-207/Domain: transmembrane #status predicted <TMM>
F;41,93,100,128,164/Binding site: carbohydrate (Asn) (covalent) #status predicted
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Curr. Top. Microbiol. Immunol. 154, 125-169, 1990
A;Title: Analysis of the protein-coding content of the sequence
A;Reference number: S09749; MUID:90269039; PMID:2161319
A;Accession: S09772
                                                                                                                                                                                                                                                                           A;Cross-references: UNIPROT:Q9WZR9; GB:AE001748; GB:AE000512; NID:g4981332; PIDN:AAD35894
A;Experimental source: strain MSB8
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A; Residues: 1-228 < CHE >
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 09-Jul-2004
C;Accession: S09772
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C;Species: human cytomegalovirus, human herpesvirus 5
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                                                                                                                                                 C; Superfamily: maltose transport
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    , R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H.; Hickey, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richardson, D.;
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Pred. No.
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Pred. No.
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                                                                        Length 271;
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R;Kershaw, J.

R;Kershaw, J.

Bubmitted to the EMBL Data Library,

Bubmitted to the EMBL Data Library,

Bubmitted to the EMBL Data Library,
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C;Species: Lactococcus lactis subsp. lactis
C;Date: 23-Mar-2001 #sequence_revision 23-Mar-2001 #text_change 09-Jul-2004
                                                         R;Harris, B.
submitted to the EMBL Data Library,
A;Reference number: Z20458
A;Accession: T28028
                                                                                                                                     C;Accession: T28028
                                                                                                                                                    hypothetical protein 2K829.10 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change
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A; Residues: 1-372 <STO>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: UNIPROT:017844;
A;Experimental source: clone F28C12
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                                  A; Status: preliminary; translated
                                                                                                                                                                                                                   T28028
                                                                                                                                                                                                                                        RESULT 19
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  A;Residues:
;Molecule type: DNA
;Residues: 1-669 <W
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;Experimental source: strain IL1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;Introne: 85/3; 134/2; 224/2; 289/3
;Superfamily: Caenorhabditis elegans hypothetical protein F18C5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gene: CESP:F28C12.4
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tes 6; Conserv
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5; Conser
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                                                                                                                                                                                                                                                                                                  38
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71.4%;
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100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                            Score 35; DB Pred. No. 75; 2; Mismatches
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                                       from GB/EMBL/DDBJ
                                                                                              May 1996
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RESULT
G88851
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A;Experimental source: clone F45D3
R;Grant, B; Greenwald, I
Genetics 143, 237-247, 1996
A;Title: The Caenorhabditis elegans
                                                                                                              protein ZK829.10 (imported) - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004 C;Accession: G88851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sel-1 protein - Caenorhabditis elegans W;Alternate names: regulator of lin-12 C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision C;Accession: T22223; S68303; S68304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Gene: CESP;ZK829.10
A;Map position: 4
A;Introns: 20/3; 146/
                                                                                                                                                                                                                                                                                                                                                                                                                           A;Gene: sel-1
A;Map position: 5
A;Introns: 41/1;
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T22223
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A;Experimental source: clone ZK829
C;Genetics:
A;Title: Genome sequence of the nematode C. elegans: a A;Reference number: A75000; MUD:99069613; PMID:9851916 A;Rote: see websites genome wustl.edu/gsc/C_elegans/ an A;Note: published errata appeared in Science 283, 35, 1
                                                                            R;anonymous, The C. elegans Sequencing Science 282, 2012-2018, 1998
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A;Accession: S68304
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A; Residues: 1-685 <WIL>
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A;Status: preliminary; translated from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;White,
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Best Local S
Matches 5
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                             90/2;
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75.0%;
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Pred. No. 1.3e
3; Mismatches
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Pred. No. 1.
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                                                                                                  Consortium.
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1.4e+02;
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  and www_sanger.ac.uk/Projects/C_eleg
, 1999; Science 283, 2103, 1999; and
                                                        a platform for investigating biology
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hypothetical protein C51F7.1 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004 C;Accession: T20140 R;White, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein K07E3.2 [imported] - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004 C;Accession: B89583 R;anonymous, The C. elegans Sequencing Consortium. Science 282, 2012-2018, 1998
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Best Local Similarity
Watches 5; Conserv
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A; Residues: 1-696 <STO>
                                                                                                                                                                                                                                                                                    submitted to the EMBL Data Library, A;Reference number: Z19228
A;Accession: T20140
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A;Molecule type: DNA
A;Residues: 1-1113 <WIIL>
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A;Status: preliminary
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A;Gene: ZK829.10
A;Map position: 4
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A; Residues: 1-837 <STO>
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                                                       Query Match
Best Local 9
                                                                                                                                                   Gene: CESP:C51F7.1
                                                                                                                                                                        Genetics:
                                                                                                                                                                                          Experimental source:
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Best Local
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                                                                                             position: 5
rons: 61/3; 127/3; 155/2; 204/2; 393/1; 434/1; 676/3; 845/1;
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                                   Similarity 6; Conserv
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                                   Conservative
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                                                   64.8%;
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55.6%;
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55.6%;
                                 Score 35; DB 2; Les
Pred. No. 2.2e+02;
Lismatches 1;
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Pred.
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Pred. No. 1.7e+02;
                                                                                                                                                                                                            EMBL:AL023811; PIDN:CAA19422.1; GSPDB:GN00023; CESP
                                                                                                                                                                                                                                                                                                                           June
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1.4e+02;
                                                                     DB 2; Length 1113;
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hypothetical protein UL68 - human cytomegalovirus (strain AD169)
C;Species: human cytomegalovirus, human herpesvirus 5
A;Note: host Homo sapiens (man)
C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 09-Jul-2004
C;Accession: S09831
R;Chee, M.S.; Bankier, A.T.; Beck, S.; Bohni, R.; Brown, C.M.; Cerny, R.; Hc
M.; Barrell, B.G.
Curr. Top. Microbiol. Immunol. 154, 125-169, 1990
A;Title: Analysis of the protein-coding content of the sequence of human cyt
A;Reference number: S09749; MUID:90269039; PMID:2161319
A;Accession: S09831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nicotinic acetylcholine receptor alpha subunit (cholinergic binding site) - African mongo (;Species: Herpestes ichneumon (African mongoose) (;Date: 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004 (;Accession: A46158 R;Barchan, D.; Kachalsky, S.; Neumann, D.; Vogel, Z.; Ovadia, M.; Kochva, E.; Fuchs, S. Proc. Natl. Acad. Sci. U.S.A. 89, 7717-7721, 1992 Proc. Natl. Acad. Sci. U.S.A. 89, 7717-7721, 1992 A;Title: How the mongoose can fight the snake: the binding site of the mongoose acetylchc A;Reference number: A46158; MUID:92366533; PMID:1380164 A;Accession: A46158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ig heavy chain V region (anti-arsonate antibody) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 12-Oct-1989 #sequence_revision 12-Oct-1989 #text_change 16-Aug-1996
C;Accession: A32189
R;Lascombe, M.B.; Alzari, P.M.; Boulot, G.; Saludjian, P.; Tougard, P.; Berek, C Proc. Natl. Acad. Sci. U.S.A. 86, 607-611, 1989
A;Title: Three-dimensional structure of Fab R19.9, a monoclonal murine antibody |
A;Reference number: A32189; MUID:89098979; PMID:2911596
A;Accession: A32189
A;Status: preliminary; not compared with conceptual translation
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A;Residues: 1-84 <BARY
A;Cross-references: UNIPROT:P54251; GB:M93639; NID:g164173; PIDN:AAA30930.1; PID:g164174
A;Cross-requence extracted from NCBI backbone (NCBIN:110811, NCBIP:110812)
C;Superfamily: acetylcholine receptor
C;Keywords: neurotransmitter receptor
                                                                                                                                                                                                                                                                                                              RESULT 26
S09831
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A46158
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A; Residues: 1-110 <LAS>
C; Superfamily: immunoglobulin V region; immunoglobulin homology
C; Keywords: heterotetramer; immunoglobulin
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A32189
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A; Molecule type: DNA
                        A;Status: nucleic acid sequence not shown; translation not shown
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Best Local S
Matches 6
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Best Local S
Matches 6
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Pred. No.
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Pred. No.
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R;Giusti, A.M.; Manser, T.
J. Exp. Med. 177, 797-809, 1993
A;Title: Hypermutation is observed only in d for somatic mutation.
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C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change
C;Accession: PH1486
                                                                                                                                                            A;Introns: 16/1
A;Introns: 16/1
G;Superfamily: immunoglobulin V region; immunoglobulin homology G;Keywords: heterotetramer; immunoglobulin for 117/Domain: immunoglobulin homology <IVM>
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A;Note: this sequence was submitted to the EMBL Data Library, December 1989
C;Superfamily: human cytomegalovirus hypothetical protein UL68
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A; Residues: 1-140 <GIU>
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A; Residues: 1-140 <GIU>
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J. Exp. Med. 177, 797-809,
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Best Local S
Matches 5
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                                                                                                                                                                                                                                                                                                                                             ;Status: translation not shown
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Local Similarity 50.0%;
Lee 5; Conservative
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71.4%;
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Pred. No. 44;
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                                   hypothetical protein Z2431 [imported] - Escherichia coli (strain O157:H7, substrain O;Species: Bscherichia coli (;Species: Bscherichia coli (;Pate: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 09-Jul-2004 C;Accession: D85750 C;Accession: D85750 R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mailler, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apodi Nature 409, 529-533, 2001 Nature 409, 529-533, 2001 A;Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7. A;Reference number: A85480; MUID:21074935; PMID:11206551
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C70424
A;Reference number: A85480;
A;Accession: D85750
A;Status: preliminary
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D85750
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C;Genetics:
A;Gene: aq 1428
C;Superfamily: Aquifex aeolicus hypothetical protein aq 1428
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A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7
A;Reference number: A99629; MUID:21156231; PMID:11258796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein ECs1917 [imported] - Escherichia coli (strain 0157:H7, substrain C;Species: Escherichia coli C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004 C;Date: 18-Jul-2006 B;Accession: E90868 C;Accession: E90868 C;Accession: E90868 C;Pate: T; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C. R;Hayyashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.
                                                                                                                                                                                                                                                                                                                              A;Reference number: A70300; MUID:98196666; PMID:9537320
A;Accession: C70424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein aq 1428 - Aquifex aeolicus
C;Species: Aquifex aeolicus
C;Date: 08-May.1998 #sequence_revision 08-May-1998 #text_change 09-Jul-2004
C;Accession: C70424
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                                                                                                                                                                                                                                A;Cross-references: UNIPROT:067421; GB:AE000740; NID:g2983826; A;Experimental source: strain VF5
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A;Molecule type: DNA
A;Residues: 1-204 <HAY>
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Best Local S
Matches 7
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                                                                          Local Similarity
les 7; Conserv
121
                                                                                                                                                                                                                                                                                                                 preliminary; nucleic acid sequence
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KIGNYTYYFDT 131
                                       KLG--TYYEDS 10
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Asunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa,
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                                                                                   Conservative
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100.0%;
                                                                                                  63.6%;
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                                                                                 Score 34; DB
Pred. No. 65;
2; Mismatches
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Pred. No.
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BB
                                                                                                                                                                                                                                                                                                                      not shown; translation not
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RIMD 0509952
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                                                                                                                        Length 209;
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Apodaca,

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outer membrane protein - Helicobacter pylori (strain 26695)
C;Species: Helicobacter pylori
C;Accession: A64659
R;Tomb, J.F.; White, O.; Kerlavage, A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, R.D.
Peterson, S.; Loftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McKenne
son, J.D.; Kelley, J.M.; Cotton, M.D.; Weidman, J.M.; Fujii, C.; Bowman, C.; Watthey, L.
Nature 38, 539-547, 1997
A;Authors: Wallin, E.; Hayes, W.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser, C.
A;Title: The complete genome sequence of the gastric pathogen Helicobacter pylori.
A;Reference number: A64520; MUID:97394467; PMID:9252185
A;Accession: A64659
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A,Molecule type. Na.
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A;Accession: B81307
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-258 <PAR>
A;Residues: 1-258 <PAR>
A;Cross-references: UNIPROT:Q9PNP6; GB:AL139077; GB:AL111168; NID:g6968444; PIDN:CAB7330
A;Experimental source: serotype O2, strain NCTC 11168
C;Genetics:
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A; Experimental source:
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C;Superfamily: thiami
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A; Residues: 1-277 < TOM>
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         228
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-357 <ALO>
A;Cross-references: UNIPROT:Q91ZJ9; EMBL:AL162651
A;Experimental source: cultivar Columbia; BAC clo
                                                                                                                                                       A; Reference number: Z24465
A; Accession: T48055
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probable outer membrane protein - Helicobacter pylori (strain J99)
C.Species: Helicobacter pylori
A.Variety: strain J99
C.Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 09-Jul-2004
C.Daccession: B71856
R.Alm, R.A., Ling, L.S.L., Moir, D.T., King, B.L., Brown, E.D., Doig, P.C., Smith, Ives, C.; Gibson, R.; Merberg, D.; Mills, S.D., Jiang, Q.; Taylor, D.E.; Vovis, Nature 397, 176-180, 1999
A.;Title: Genomic sequence comparison of two unrelated isolates of the human gastri A.;Reference number: A71800; MUID:99120557; pMID:9923682
A.;Accession: B71856
hypothetical protein F26K9.90 - Arabidopsis thaliana (Species: Arabidopsis thaliana (mouse-ear cress) (Species: Arabidopsis thaliana (mouse-ear cress) (Spate: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 09-Jul-2004 (C; Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 09-Jul-2004 (C; Accession: T48055 R; Bloecker, H.; Mewes, H.W.; Rudd, S.; Lemcke, K.; Mayer, K.F.X.; Quetier, Submitted to the Protein Sequence Database, March 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plant Cell 10, 781-789, 1998
Plant Cell 10, 781-789, 1998
A;Title: The sex-inducing pheromone and wounding trigger
A;Reference number: Z16381; MUID:98259000; PMID:9596636
A;Accession: T08150
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A;Experimental source: strain J99
C;Genetics:
A;Gene: jhp1040
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A;Cross-references: UNIPROT:O65213;
C;Keywords: glycosidase; hydrolase
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C;Species: Volvox carteri f. nagariensis
C;Date: 21-May-1999 #sequence_revision 21-May-1999 #text_change 09-Jul-2004
C;Accession: T08150
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A; Residues: 1-277 < ARN>
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Salanoubat

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protein kinase (EC 2.7.1.37) - malaria parasite (Plasmodium f. NAlternate names: calcium-dependant protein kinase (Species: Plasmodium falciparum C;Date: 17-Feb-1994 #sequence revision 17-Feb-1994 #text_chanc (Accession: A45472; E71605; $\overline{S}28590$ R;Zhao, Y.; Kappes, B.; Franklin, R.M.

J. Biol. Chem. 268, 4347-4354, 1993
A;Title: Gene structure and expression of an unusual protein la;Reference number: A45472; MUID:93179444; PMID:8440720
A;Contents: KI
A;Molecule type: DNA
A;Residues: 1-524 <ZHA>
A;Residues: UNIPROT:Q27731; EMBL:X67288; NID:g9877; PIDN:CAA47704.1; PID:g9878
A;Note: sequence extracted from NCBI backbone (NCBIN:125849, NCBIP:125850)
A;Note: sequence extracted from NCBI backbone (NCBIN:125849, NCBIP:125850)
R;Gardner, M.J.; Tettelin, H.; Carucci, D.J.; Cummings, L.M.; Aravind, L.; Koonin, E.V.
A; Pertea, M.; Salzberg, S.; Zhou, L.; Sutton, G.G.; Clayton, R.; White, O.; Smith, H.O.
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A;Title: The complete genome sequence of Escherichia coli K-12. A;Reference number: A64720; MUID:97426617; PMID:9278503
A;Accession: C64883
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A; Residues: 1-510 <BLAT>
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C;Date: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 09-Jul-2004
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N-acetylmuramoyl-L-alanine amidase [impo
C;Species: Nostoc sp. PCC 7120
A;Note: Nostoc sp. strain PCC 7120 is a
C;Date: 14-Dec-2001 #sequence_revision 1
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F;145-161/Domain: transmembrane #status predicted <TM3> F;167-183/Domain: transmembrane #status predicted <TM4> F;252-268/Domain: transmembrane #status predicted <TM5> F;285-301/Domain: transmembrane #status predicted <TM6> F;366-557/Domain: ATP-binding cassette homology <ABC> F;383-390/Region: nucleotide-binding motif A (P-loop)
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C;Species: Haemophilus influenzae
C;Date: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 16-Aug-2004
C;Accession: F64186
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C;Superfamily: ATP-binding cassette homology
C;Keywords: ATP; nucleotide binding; P-loop;
F;23-39/Domain: transmembrane #status predic
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C;Genetics:
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A;Introns: 406/3; 440/1; 479/3; 505/3
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A;Experimental source: clone 3D7
C;Genetics:
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A;Status: nucleic acid |
A;Molecule type: DNA
A;Residues: 1-524 <GAR>
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A;Title: Chromosome 2 sequence of the human malaria parasite Plasmodium falciparum.
A;Reference number: A71600; MUID:99021743; PMID:9804551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Residues: 1-586 <TIGR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: DNA
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[imported] - Nostoc

gp.

(strain PCC 7120)

a synonym of 14-Dec-2001

Anabaena sp. #text\_change

strain PCC 7120 09-Jul-2004

Run

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Result
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Match
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1: uniprot_sprot:*
2: uniprot_trembl:*
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Gapop 10.0 , Gapext 0.5
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54
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192.513 Million cell updates/sec
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GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd
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CAG21123
Q97H36
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CAG19074
Q8DKC6
Q932E5
Q7P1A2
Q6L4U1
AAT38075
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YIB7_YEAST
BAD00308
Q6CLB5
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COAT_MUMIM
Q84207
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AAS57939
Q74IS2
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         Gag19074 photobact
Q8dkc6 synechococc
Q932e5 staphylococ
Q7p1a2 chromobacte
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DENCE BETT: 217 AA.  PRT: 217 AA.  Created)  Last annotation update)  Last annotation update)	2 QSHVV03 2 QSHSQ4 2 QSHSQ4 2 QSHSQ4 2 QSHSQ6 2 QSHSQ8 2 QSSQ8 2 QSSQ8 2 QSASC8 2 QSLQ8 2 QSLQB 2 QSLQBQ8 2 QSLQBQ8 2 QSLQBQ8 2 QSLQBQ8 2 QSLQBQ8 2 QSLQBQBQ8 2 QSLQBQBQAB 2 QSLQQ
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RESULT 4
QGLUET ID QGLUE
ID QGLUE
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Q6LUF1;
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Q97H36;
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Submitted (MAR-2004) to the EMBL; CR378672; CAG21123.1;
Hypothetical protein.
SEQUENCE 217 AA; 24557 MM
                                                                        Hypothetical protein.
OrderedLocusNames=PBPRA0653;
Photobacterium profundum (Photobacterium sp. (s
Bacteria; Proteobacteria; Gammaproteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOI=10.1128/JB.183.16.4823-4838.2001;
Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,
Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,
Tatusov R.L., Sabathe F., Doucette-Stamm L.A., Soucaille P.,
Daly M.J., Bennett G.N., Koonin E.V., Smith D.R.;
"Genome sequence and comparative analysis of the solvent-producing bacterium Clostridium acetobutylicum.";
J. Bacteriol. 183:4823-4838(2001).
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Clostridium acetobutylicum.
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Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases.
Vibrionaceae; Photobacterium. NCBI_TaxID=74109; [1]
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MEDLINE=21359325; PubMed=11466286;
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01-JUN-2003
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Complete proteome.
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(TrEMBLrel. 27,
(TrEMBLrel. 27,
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(TrEMBLrel. 18, Last sequence up
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zed protein, CGEB homolog.
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                                                                                 (strain SS9)).
a; Vibrionales;
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RESULT 5
CAG19074
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Matches 6
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Best Local :
                                                           QBDKC6; PRELIMINARY;
QBBKC6;
01-MAR-2003 (TrEMBLrel. 2
01-MAR-2003 (TrEMBLrel. 2
01-MAR-2004 (TrEMBLrel. 2
Tll0933 protein.
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CAG19074;
10-MAY-2004
                                                                                                                                                                                                                                                                                              EMBL; CR378665; CAG19
Hypothetical protein.
SEQUENCE 206 AA; 2
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                       Synechococcus elongatus (Thermosynechococcus Bacteria; Cyanobacteria; Chroococcales; Synec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=889;
Vezzi A., C
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Cestaro A., Malacrida G., Simionati B.,
          NCBI_TaxID=32046;
                                                  OrderedLocusNames=tl10933;
                                                                                                                                                                                                                                                                                                                       Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases EMBL; CR378665; CAG19074.1; -.
                                                                                                                                                                                                                                                                                                                                                  Cestaro A.,
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Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases
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Cestaro A., Malacrida G., Simionati
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=74109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vibrionaceae; Photobacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Photobacterium profundum (Photobacterium sp. (strain SS9)).
Bacteria, Proteobacteria, Gammaproteobacteria, Vibrionales,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PBPRA0653.
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10-MAY-2004
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les 6; Conserv
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Pred. No.
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Pred. No.
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                           Synechococcus.
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D.,
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PRESCRIPTION OF THE PROPERTY O
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  Matches
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DNA Res. 9:123-130(2002).
EMBL; AP005372; BAC004865.1; -.
InterPro; IPR006258; SLT.
InterPro; IPR001440; TPR.
InterPro; IPR001440; TPR-1ike.
Pfam; PF01464; SLT; 1.
PROSITE; PS50293; TPR_REGION; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-21311952; PubMed=11418146;
Kuroda M., Ohta T., Uchiyama I., Baba T., Yuzawa H., Kobayashi I.,
Cui L., Oguchi A., Aoki K.-I., Nagai Y., Lian J.-Q., Ito T.,
Kanamori M., Matsumaru H., Maruyama A., Murakami H., Hosoyama A.,
Mizutani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito C.,
Sekimizu K., Hirakawa H., Kuhara S., Goto S., Yabuzaki J.,
Kanahisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., Shiba
Hattori M., Ogasawara N., Hayashi H., Hiramatsu K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q932E5; PRELIMINARY;
Q932E5; Ol-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-MAR-2004 (TrEMBLrel. 26,
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                                                                                                                                                                                                                                                                                                                                                                                                                                        "Whole genome sequencing of meticillin-resistant Staphylococcus aureus.";
Lancet 357:1225-1240(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN=Mu50 / ATCC 700699;
                                                                                                                                                                                      InterPro; IPR002110; ANK.
InterPro; IPR011010; DNA brk join enz.
InterPro; IPR0110998; L intgrse_like_N.
InterPro; IPR002104; Phage_integrase.
Pfam; PF00589; Phage_integrase; 1.
                                                                                                                                                                                                                                                                                                                         EMBL, AP003360; BAB56945.1; ...
GO; GO:0003677; F:DNA binding; IEA.
GO; GO:0015074; P:DNA integration; IEA.
GO; GO:0006310; P:DNA recombination; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Staphylococcus aureus (strain Mu50 / ATCC 700699)
Bacteria: Firmicutes; Bacillales; Staphylococcus.
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STRAIN=BP-1;
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                                                                                                                                                                  PRINTS; PRO1415; ANKYRIN
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Similarity 7; Conserv
                                                                                                         proteome.
368 AA;
     Conservative
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                                                                                                            43818 MW;
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                               Score 40; DB 2; Pred. No. 52;
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Pred. No.
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                                                                                                            14B83C72100292DE CRC64;
  Mismatches
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RX WEDLINE—2288380; Pubmde=1450782;
RA Antonio R.V., Almeida F.C., de Almeida L.G.P., de Almeida R.A.,
RA Alves-Gomes J.A., Andrade E.M., Araripe J., de Araujo M.F.F.,
RA Alves-Gomes J.A., Andrade E.M., Araripe J., de Araujo M.F.F.,
RA Astolfi-Filho S., Azevedo V., Baptista A.J., Bateus L.A.M.,
RA Batista J.S., Belo A., van den Berg C., Bogo M., Bonatto S.,
RA Batista J.S., Belo A., van den Berg C., Bogo M., Bonatto S.,
RA Camargo A.A., Cardoso D.D.P., Carneiro N.P., Carraro D.M.,
RA Carvalho C.M.B., Cascardo J.C.M., Cavada B.S., Chueire L.M.O.,
RA Carvalho C.M.B., Cascardo J.C.M., Cavada B.S., Chueire L.M.O.,
RA Carvalho C.M.B., Cascardo J.C.M., Cavada B.S., Chueire L.M.O.,
RA Fantinatti F., Farias I.P., Felipe M.S.S., Ferrari L.P., Ferro J.A.,
RA Fartinatli R.T., Gomes B.A., Goncalves P.R., Grangeiro T.B.,
RA Gazinelli R.T., Jomes B.A., Goncalves P.R., Grangeiro T.B.,
RA Grattapaglia D., Grisard B.C., Hanna E.S., Jardim S.N., Laurino J.,
RA Madeira H.M.F., Manfio G.P., Maranhao A.Q., Martins W.S.,
RA Mascimento F.F., Nicolas M.F., Oliveira J.G., Oliveira S.C.,
RA Airos R.F.C., Parente J.A., Pedrosa F.O., Pena S.D.J., Pereira J.O.,
RA Pereira M., Pinto L.S.R.C., Pinto L.S., Porto J.R., Portich D.P.,
RA Ramalho-Neto C.E., Reis A.M.M., Rigo L.U., Rondinelli E.,
RA Santos B.B.P., Santos F.R., Schneider M.P.C., Seuanez H.N.,
Souza R.C., Steffens M.B.R., Steindel M., Teixeira S.R., Urmenyi T.,
RA Silva A.M.R., da Silva A.L.C., Silva D.W., Silva R., Simoes I.C.,
RA Simon D., Soates F.R., Steindel M., Teixeira S.R., Urmenyi T.,
RA Souza R.C., Steffens M.B.R., Steindel M., Teixeira S.R., Urmenyi T.,
RA Fenci R. Steindel M., Teixeira S.R., Urmenyi T.,
RA Fenci R. Steindel M., Teixeira S.R., Urmenyi T.,
RA Fenci R. Steindel M., Teixeira S.R., Urmenyi T.,
RA Fenci R. Steindel M., Teixeira S.R., Urmenyi T.,
RA Fenci R. Steindel M., Teixeira S.R., Urmenyi T.,
RA Fenci R. Steindel M., Teixeira S.R., Urmenyi T.,
RA Fenci R. Steindel M. Steindel M., Teixeira S.R., Urmenyi T.,
RA Fenci R. St
                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 7
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Q7P1A2;

01-MAR-2004 (TIEMBLITE1. 2

01-MAR-2004 (TIEMBLITE1. 2

01-MAR-2004 (TIEMBLITE1. 2
Q6L4U1
Q6L4U1;
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00353; HemolygsinCabind; 4.
PRINTS; PR00313; CABNDNGRPT.
TIGRRAMS; TIGR01965; VCBS; repeat; 25.
PROSITE; PS00330; HEMOLYSIN_CALCIUM; 1.
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Bacteria; Proteobacteria; Betaproteobacteria; Neisseriales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OrderedLocusNames=CV0311;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Neisseriaceae;
                                                                                                                                                                                                                                           2460
                                                                                                                                                                                                                                                                                                                                                                 . Similarity 7; Conserv
                                                                                                                                                                                                                                        VKYGTFHFDS
                                                                                                                                                                                                                                                                                                      VKLGTYYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                proteome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4130 AA;
      (TrEMBLrel. 27,
                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                        PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                       74.1%;
70.0%;
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Last annotation update)
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RESULT 10
AAT38075
ID AAT38
AC AAT38
AC O1-JT
DT 01-JT
DT 01-JT
DT 01-JT
OC BUK
OC Sp(
OC Sp(
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Best Local S
Matches 7
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A Chow T.-Y., Hsing Y.-I.C., Chen C.-S., Chen H.-H., Liu S.-M.,

A Chao Y.-T., Chang S.-J., Chen H.-C., Chen S.-K., Chen T.-R.,

A Chen Y.-L., Chang S.-J., Chen J.-J., Hsing S.-H.,

A Hsiung J.-N., Hsu C.-H., Huang J.-J., Kau P.-I., Lee M.-C., Leu H.

A Li Y.-F., Lin S.-J., Lin Y.-C., Wu S.-W., Yu C.-Y., Yu S.-W.,

Mu H.-P., Shaw J.-F.,

Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.

R EMBL; AC130610; AAT38075.1; -.

R InterPro; IPR035037; PRP38.

R InterPro; IPR05037; PRP38.

R Pfam; PF03371; PRP38; 1.

W Hypothetical protein.
                                                                                                      Query Match
Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAT38075 PREMARK....

AAT38075;
O1-JUN-2004 (TrEMBLrel. 27, Created)
O1-JUN-2004 (TrEMBLrel. 27, Last sequence update)
O1-JUN-2004 (TrEMBLrel. 27, Last annotation update)
O1-JUN-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                             STRAIN=CV. Nipponbare;
Chow T.-Y., Hsing Y.-I.C., Chen C.-S., Chen H.-H., Liu S.-M., Chow Y.-T., Chang S.-J., Chen H.-C., Chen S.-K., Chen T.-R., Chan Y.-T., Chang S.-J., Chung C.-I., Han S.-Y., Hsiao S.-H., Chen Y.-E., Chung C.-H., Chung J.-J., Kau P.-I., Lee M.-C., Leu Li Y.-F., Lin S.-J., Lin Y.-C., Wu S.-W., Yu C.-Y., Yu S.-W., Wu H.-P., Shaw J.-F.;
"Oryza sativa PAC P0478F09 genomic sequence.";
Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AC130610; AAT38075.1; -.
Hypothetical protein.
SEQUENCE 434 AA; S1015 MW; A02AE70738E80CBF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein P0478F09.2.
P0478F09.2.
Oryza sativa (japonica cultivar-group).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza; Oryza sativa.
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Eukaryota; Viridiplantae; Streptophyta; Em 
Spermatophyta; Magnoliophyta; Liliopsida; 
Ehrhartoideae; Oryzeae; Oryza.
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[1]
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                                                                                                                                   Local Similarity
145
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                                                      LGTYYFDS
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Pred. No.
                                                                                                                                                          Score 39;
                                                                                                                                   Pred.
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annotation update)
                                                                                                                                No. 95;
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95;
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a; Poales; Poaceae;
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RESULT Q6QCI3

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RESULT 13
Q741S2
ID Q741S2
PRELIMINARY;
AC Q74IS2;
PT 05-UUL-2004 (TrEMBLrel. 2
DT 05-UUL-2004 (TrEMBLrel. 2
DT 05-UUL-2004 (TrEMBLrel. 2
DT 05-UUL-2004 (TrEMBLrel. 2
DR Prolyl-tRNA synthetase.
GN OrderedLocusNames-LUI1493)
OS Lactobacillus johnsonii.
                                                                                                                                                                                                                                                                                                                                                                                                                                         AASS79 ID AASS7
AC AASS7
AC AASS7
DT 25-MA
DT 25-MA
DT 25-MA
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DT 25-MA
CO Virus
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Best Local S
Matches 8
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Best Local S
Matches 8
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O6QCI3;
O5-JUL-2004 (TrEMBLrel. 2
O5-JUL-2004 (TrEMBLrel. 2
O5-JUL-2004 (TrEMBLrel. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-MAR-2004 (TrEMBLrel. 27
25-MAR-2004 (TrEMBLrel. 27
25-MAR-2004 (TrEMBLrel. 27
25-MAR-2004 (TrEMBLrel. 27
Polymerase (Fragment).
Mint vein banding virus.
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NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAS57939
AAS57939;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (PEB-2004) to the EMBL/GenBank/DDBJ EMBL; AY548173; AAS57939.1; -.
EMBL; AY548173; AAS57939.1; -.
InterPro; IPR001798; RNA_dep_RNApol2.
InterPro; IPR007095; RNA_pol_DS_PS.
InterPro; IPR007094; RNA_pol_PSvir.
InterPro; IPR001780; MDA_DOL_PSVir.
InterPro; IPR001780; WDA_DOL_PSVIR.
InterPro; IPR001780; WDA_DOL_2; 1.
PROSITE; P800678; WD_REPEATS_1; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
Trannetakis I.E., Postman J.D., Martin R.R.;
"Mint vein banding virus, a unique closterovirus
Submitted (FEB-2004) to the EMBL/GenBank/DDBJ dat
EMBL; AY548173; AAS57939.1; -.
NON_TER 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Viruses; sBRNA positive-strand viruses, no DNA stage; unassigned species in the family Closteroviridae. NCBI_TaxID=265877;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Viruses; ssRNA positive-strand viruses, no DNA stage; Closteroviridae; unassigned species in the family Closteroviridae. NCBI_TaxID=265877;
                         OrderedLocusNames=LJ1493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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Tzanetakis I.E., F
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                                                                                                                                                                                                                                                                                                                                                       8; Conserv
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8; Conservative
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(TrEMBLrel.
(TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                           Conservative
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                                                                                                                                                           PRELIMINARY;
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80.0%;
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Pred. No.
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Pred. No.
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1.1e+02;
2;
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Aprittet A.-C., Zwahlen M.-C., Rouvet M., Altermann E., Barrangou R.,
A Mollet B., Mercenier A., Klaenhammer T., Arigoni F., Schell M.A.;
The genome sequence of the probiotic intestinal bacterium
Lactobacillus johnsonii NCC 533.";
Lectobacillus johnsonii NCC 530.";
                                                                                                                                    Query Match
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                                                                                                                                                                                                                                       PubMed=1496310;
PubMed=1496310;
Pridmore R.D., Berger B., Desiere F., Vilanova D., Barretto C.,
Pittet A.-C., Zwahlen M.-C., Rouvet M., Altermann E., Barrangou R.
Mollet B., Mercenier A., Klaenhammer T., Arigoni F., Schell M.A.;
"The genome sequence of the probiotic intestinal bacterium
Lactobacillus johnsonii NCC 533.";
Proc. Natl. Acad. Sci. U.S.A. 101:2512-2517(2004).
EMBL; AB017204; AAS09261.1;
Aminoacyl-trnA synthetase.
SEQUENCE 565 AA; 63241 MW; F655C682A39D68D4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-MAR-2004
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AAS09261;
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PRINTS; PRO1046; TRNASYNTHPRO.

TIGRFAMB; TIGR00409; proS fam II; 1.

PROSITE; PS50862; AA TRNA_LIGASE_II; 1.

PROSITE; PS50862; AA TRNA_LIGASE_II; 1.

Aminoacyl-trnA synthetase; Complete proteome.

SEQUENCE 565 AA; 63241 MW; F655C682A39D68D4 CRC64;
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Pfam; PF00587; tRNA-synt_2b; 1.
Pfam; PF04073; YbaK; 1.
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Lactobacillus. 
NCBI_TaxID=33959;
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NCBI_TaxID=33959;
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KLGTYYFDS 10
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77.8%;
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Pred. No.
                                                                                                                                                                                   Score 39; DB 2;
Pred. No. 1.2e+0;
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C STRAIN-ATCC 824 / DSM 792 / VKM B-1787;

X MEDLINE-21359325; PubMed=11466286;

X MOI=10.1128/JB.183.16.4823-4838.2001;

X DOI=10.1128/JB.183.16.4823-4838.2001;

X Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,

A Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,

A Tatusov R.L., Sabathe F., Doucette-Stamm L.A., Soucaille P.,

A Daly M.J., Bennett G.N., Koonin E.V., Smith D.R.;

A Daly M.J., Bennett G.N., Koonin E.V., Smith D.R.;

T "Genome sequence and comparative analysis of the solvent-producing bacterium Clostridium acetobutylicum.";

J. Bacteriol. 183:4823-4838(2001).

R EMBL; AE007623; AAK79053.1; -.

R FIR; B97033; B97033.
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OrderedLocusNames=SE0962;
Staphylococcus epidermia
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Q97K42;
01-OCT-2001 (TrEMBLrel. 1
01-OCT-2001 (TrEMBLrel. 1
01-MAR-2004 (TrEMBLrel. 2
Zhang Y.-Q., Ren S.-X., Li H.-L., Wang Y.-X., Fu G., Yang J., Qin Z.-Q., Miao Y.-G., Wang W.-Y., Chen R.-S., Shen Y., Chen Z., Yuan Z.-H., Zhao G.-P., Qu D., Danchin A., Wen Y.-M.; "Genome-based analysis of virulence genes in a non-biofilm-forming Staphylococcus epidermidis strain (ATCC 12228)."; Mol. Microbiol. 49:1577-1593 (2003).

EMBL; AE016747; AN004559.1; -.
GO; GO:0006777; P:Mo-molybdopterin cofactor biosynthesis; IEA. InterPro; IPR001453; MCCF_biosynth.
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01-MAR-2003 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN=ATCC 12228;
PubMed=12950922;
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SMART; SM00710; PbH1; 10.
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Pred. No. 5.8e
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01-OCT-2002
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Complete proteome.
SEQUENCE 262 AA; 29694 MW; C4EB5FF
                                                                                                                                  Bao Q., Tian Y., Li W., Xu Z., Xuan Z., Hu S. Chen Y., Xue Y., Lai X., Huang L., Don Tan H., Chen R., Wang J., Yu J., Yang H.;
"A complete sequence of the T. tengcongensis Genome Res. 12:689-700(2002).
EMBL; AE013082; AAN24428.1; ---
GO; GO:0016020; C:membrane; IEA.
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OBRAL5; O1-JUN-2002 (TrEMBLrel. 21,
01-JUN-2003 (TrEMBLrel. 21,
01-JUN-2003 (TrEMBLrel. 24,
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01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
Hypothetical protein (Fragment).
Staphylococcus phage 187.
Staphylococcus phage 187.
Worrmess, dsDNA viruses, no RNA stage; Caudovirales; Siphoviridae.
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Bacteria; Firmicutes; Clostridia; Thermoanaerobacteriales; Thermoanaerobacteriaceae; Thermoanaerobacter.
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MEDLINE-93297126; PubMed-8517025;

Diffoot N., Chen K.C., Bates R.C., Lederma M.;

"The complete nucleotide sequence of parvovirus LuIII and localization of a unique sequence possibly responsible for its encapsidation pattern.";
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Coat protein VP1 (Contains: Coat protein
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MEDLINE-86115415; PubMed=3502703;
MEDLINE-86115415; PubMed=3502703;
Astell C.R., Gardiner E.M., Tattersall P.;
PINA sequence of the lymphotropic variant of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           prototype strain.";
J. Virol. 570:656-6
                                     "Three splicing patterns are used to all minute virus of mice RNAs."; J. Virol. 60:1170-1174(1986).
EMBL; J02275; AAA67114.1; -.
HSSP; P30129; 4DPV.
                                                                                                                                                       MEDLINE-86115415; PubMed-3502703; Astell C.R., Gardiner E.M., Tattersall P.; "DNA sequence of the lymphotropic variant of MVM(1), and comparison with the DNA sequen
                                                                                                                                                                                                                                        parvovirus.";
                                                                                                                                                                                                                                              MEDLINE=83143341; PubMed=6298737;
Astell C.R., Thomson M., Merchlinsky M., Wa
"The complete DNA sequence of minute virus
                                                                                                                                                                                                                                                                                                                     Viruses; ssDNA viruses;
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NCBI_TaxID=10794;
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Murine minute virus
                                                                                       MEDLINE-87061199; PubMed=3783817;
Morgan W.R., Ward D.C.;
                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                prototype
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                                                                                                                                                                                                                             Nucleic
                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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GO:0005198; F:structural molecule
erPro; IPR001403; Parvo coat.
erPro; IPR008975; Viral_cap_coat.
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Parvoviridae; Pa
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Parvoviridae; Parvovirinae; Parvovirus.
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Last sequence update)
Last annotation updat
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                     activity;
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us of mice,
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of the fibrotropic
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P03137;
21-JUL-1986
21-JUL-1986
16-OCT-2001
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CARBOHYD
CARBOHYD
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21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Cost protein VP1 (Contains: Cost protein VP2)
Murine minute virus (Murine parvovirus).
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SEQUENCE 587 AA;
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CARBOHYD
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SEQUENCE FROM N.A.
MEDLINE=83143341; PubMed=6298737;
Astell C.R., Thomson M., Merchlinsky M., Ward D.C.;
Astell C.R., Thomson M., acquence of minute virus of mice,
                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                      HSSP; P07302; 1MVM.
InterPro; IPR001403; Parvo_coat.
InterPro; IPR008975; Viral_cap_coat.
Pfam; PF00740; Parvo_coat; 1.
                                                                                                                                                                                                                                                                                                                                                  EMBL; V01115; CAA24310.1; ALT_SEQ.
PIR; A03700; VCPV2M.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10794;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- SIMILARITY: Belongs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 85.
                                                                                                   397
                                                                                                                                                                                                                                                                                            protein;
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AA; 64534 MW;
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Coat protein VP2.
N'linked (GlcNAc.
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1; Mismatches
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Pred. No.
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ches 0;
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1.9e+02;
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COAT MUMIM STANDARD; p07302; Q9WMH3; 01-APR-1988 (Rel. 07, Created) 01-APR-1988 (Rel. 07, Last seq 01-OCT-2004 (Rel. 45, Last anno

sequence update)
annotation update)

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Pfam; PF00740;
3D-structure; CHAIN
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SEQUENCE FROM N.A.

MEDLINE-86115415; PubMed=3502703;

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or send a
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Murine minute virus (strain MVMi) (Murine parvovirus).
Viruses; ssDNA viruses; Parvoviridae; Parvovirinae; Parvovirus.
NCBI _TaxID=10795;
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"Structure determination of Minute Virus of mice.";
Acta Crystallogr. D 53:93-100(1997).
Acta Crystallogr. D 53:93-100 (1997).
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EMBL; X02481; CAB46508.1; -.
EMBL; M12032; AAA65569.1; ALT_INIT.
PIR; B23008; VCPVIM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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Llamas-Saiz A.L., Agbandie-Mckenna M., Wikoff W.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PF00740;
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an email to license@isb-sib.ch).
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IPR001403; Parvo_coat.
IPR008975; Viral_cap_coat.
0740; Parvo_coat; 1.
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  Coat protein VP1.
Coat protein VP2.
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Gly-rich.
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EMBL; V01115; CAA24313.1; -.
HSSP; P30129; 4DPV.
HSSP; GO:0019028; C:viral capsid; IEA.
GO; GO:0005198; F:structural molecule activity; IEA.
InterPro; IPR001403; Parvo_coat.
InterPro; IPR001473; Parvo_coat.
Pfam; PF00740; Parvo_coat; 1.
                                                                                                                                                                                                                                                                                                                                                   Coding sequence.
Murine minute virus (Murine parvovirus)
Viruses; ssDNA viruses; Parvoviridae; P
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Nucleic Acids
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                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10794;
                                                                                                                                                                                                                The complete DNA sequence
                                                                                                                                                                                                                                         Astell C.
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CAA24313.1; -.
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1; Mismatches (
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                             Q55476
Q55476;
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GO; GO:0005198; F:structural molecule
InterPro; IPR001403; Parvo_coat.
InterPro; IPR008975; Viral_cap_coat.
pfam; PF00740; Parvo_coat; 1.
SEQUENCE 729 AA; 80145 MW; CCE2686
                                                                                                                                                                                                                                                MEDLINE=87061199; PubMed=3783817;
Morgan W.R., Ward D.C.;
"Three splicing patterns are used
all minute virus of mice RNAs.";
J. Virol. 60:1170-117411986).
                                                                                                                                                                                                                              EMBL; J02275; AAA67111.1; -. HSSP; P30129; 4DPV.
                                                                                                                                                                                                                                                                                                                                                  MEDLINE=86115415; PubMed=3502703; Astell C.R., Gardiner E.M., Tattersall P.; "DNA sequence of the lymphotropic variant of MVM(1), and comparison with the DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=83143341; PubMed=6298737; Astell C.R., Thomson M., Merchlinsky "The complete DNA sequence of minute
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            Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Ha Maiti R., Ronning C.M., Koo H., Fujii C.Y., Utterback's Barnstead M.E., Bowman C.L., White O., Nierman W.C., Fushmitted (OCT-2000) to the EMBL/GenBank/DDBJ database EMBL, AC069299; AAG28079.1; -.

PIRIL; A86460; A86460; Integrin_alpha.

InterPro; IPR000413; Integrin_alpha.

InterPro; IPR001611; LRR.

InterPro; IPR00709; LRR. plant.

Pfam; PF00560; LRR; 21.

PRINTS; PR00019; LEURICHRPT.

PROSITE; PS00042; INTEGRIN_ALPHA; UNKNOWN_1.
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Q9FW49;
01-MAR-2001
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SEQUENCE
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DNA Res. 2:153-166(1995).
EMBL; D64006; BAA10822.1; -.
EMBR; S75975; S75975.
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Kaneko T., Sato S., Kotani H., Tanaka A., Asamizu Miyajima N., Hirosawa M., Sugiura M., Sasamoto S. Hosouchi T., Matsuno A., Muraki A., Nakazaki N., Shimpo S., Takeuchi C., Wada T., Watanabe A., Yan Tabata S.;
                                                                                                                                                                                                                                                                                                                                                                               Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core e
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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InterPro; IPR008941; TPR-like
Pfam; PF01464; SLT; 1.
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MEDLINE=96127529; PubMed=8590279;
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Ol-MAR-2001 (TrEMBLrel. 16, Last sequence update)
Ol-MAR-2004 (TrEMBLrel. 26, Last annotation updat.
Hypothetical protein T1B4.10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis sp. strain PCC6803. II. Sequence determination of the entire genome and assignment of potential protein-coding regions.", DNA Res. 3:109-136(1996).
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=3702;
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Sugiura M., Tabata S.;
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Bacteria; Cyanobacteria;
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stis sp. (strain PCC 6803).
Cyanobacteria; Chroococcales; Synechocystis.
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                                                                                                                                                                                                                                                                Utterback
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Vamada M., Yasuda P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 847;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7;
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                                                                                                                                                                                                                                            Fraser C.M.;
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RESULT 29
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AC BAD00308;
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P40547;
01-FEB-1995
01-FEB-1995
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GermOnline; 139554; -.
SGD; S0001279; VID28.
SGO; GO:0005737; C:cytcplasm; IDA.
GO; GO:0005634; C:nucleus; IDA.
GO; GO:0005632; P:negative regulation of gluconeogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBI the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fentities requires a license agreement (See http://www.isb-sih
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Churcher C.M., Bowman S., Badcock K., Bankier A., Brown D., Chillingworth T., Connor R., Devlin K., Gentles S., Hamlin N., Harris D.E., Horsnell T., Hunt S., Taglels K., Jones M., Lye G., Moule S., Odell C., Pearson D., Rajandream M.A., Rice P., Rowley Skelton J., Smith V., Walsh S., Whitehead S., Barrell B.G.; "The nucleotide sequence of Saccharomyces cerevisiae chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=4932;
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05-UUL-2004 (Rel. 44, Last annotation update)
Hypothetical 105-5 kDa protein in RPLZB-SNL1 intergenic region.
OrderedLocusNames=YIL017C;
                                   02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
102-MAR-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hypothetical protein. SEQUENCE 921 AA; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or send an email to license@isb-sib.ch).
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STRAIN=S288c / ABS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=97313266; PubMed=9169870;
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S49965; S49965.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 38; DB 1;
Pred. No. 3e+02;
1; Mismatches
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Lafontaine I., de Montigny J., Marck C., Neuveglise C., Talla E.,
Goffard N., Frangeul L., Aigle M., Anthouard V., Babour A., Barbe V
Barnay S., Blanchin S., Beckerich J.M., Beyne E., Bleykasten C.,
Boisrame A., Boyer J., Cattolico L., Confanioleri F., de Daruvar A.,
Boisrame A., Boyer J., Cattolico L., Ferry-Dumazet H., Groppi A.,
Despons L., Fabre E., Fairhead C., Ferry-Dumazet H., Groppi A.,
A. Hantraye F., Hennequin C., Jauniaux N., Joyet P., Kachouri R.,
A. Kerrest A., Koszul R., Lemaire M., Lesur I., Ma L., Muller H.,
A. Kerrest A., Koszul R., Lemaire S., Ozier-Kalogeropoulos O.,
Pellenz S., Potier S., Richard G.F., Straub M.L., Suleau A.,
A. Swennene D., Tekaia F., Wesolowski-Louvel M., Westhof E., Wirth B.,
A. Zeniou-Meyer M., Zivanovic I., Bolotin-Fukuhara M., Thierry A.,
A. Bouchter C., Caudron B., Scarpelli C., Gaillardin C., Weissenbach J.
                                                                             Query Match
Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q6CLB5;
01-OCT-2004 (TrEMBLrel. 28, Created
01-OCT-2004 (TrEMBLrel. 28, Last se
01-OCT-2004 (TrEMBLrel. 28, Last an
Similar to sp{P38235 Saccharomyces
ORFNames=KLLAOF043019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kluyveromyces lactis (Yeast).
Eukaryota; Fungi; Ascomycota;
Saccharomycetales; Saccharomyc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AI
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Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                       Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases. EMBL; CR382126; CAG97982.1; -.
                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN=NRRL Y-1140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bouchier C., Caudron B., Wincker P., Souciet J.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENOLEVURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. STRAIN=NRRL Y-1140;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Honda T., Akahori Y., Kurosawa Y., "Libraries of heavy-chain antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Spleen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9838;
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Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Camelus dromedarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nature 430:35-44(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Genome evolution in yeasts.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30
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ER 1 1
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       N
                                                                         Similarity 7; Conserv
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121 AA;
                                                                                                                                                                                                                         338
                                                                                 Conservative
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                                                                                                                                                                                                                      AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saccharomycetaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Dromedary) (Arabian camel).
Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Tylopoda; Camelidae; Camelus
                                                                                                                                                                                                                      38362 MW; DBD1603F135D96D5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12879 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            68.5%;
100.0%;
                                                                                                              68.5%;
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Last annotation update)
romyces cerevisiae YBR053c
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                                                                                                           Score 37;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Saccharomycotina; Saccharomycetes; setaceae; Kluyveromyces.
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                                                                                                                                                       DB 2;
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                                                                                                                  .8e+02;
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                                                                                                                                                   Length 338
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Camelus
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QBQUMB
ID QBQUM
AC QBQUM
DT 01-JI
DT 01-JI
DT 01-JI
DT O1-JI
DT O
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                                                                                                                                                                                                                       A Strausberg R.L., Peingold E.A., Grouse L.H., Derge J.G.,

Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

A Altschul S.F., Zeeberg B., Buctow K.H., Schaefer C.F., Bhat N.K.,

K. Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Stapleton M., Soares M.B., Bonaldo M.F., Casvant T.L., Schetz T.E.,

Brankstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

A Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

A Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

A Bosak S.A., McEwan P.J., McKernan K.J., Lu X., Gibbs R.A.,

A Hilalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

A Willalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

A Willalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

A Willalon B., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

A Whiting M., Touchman J.W., Green B.D., Dickson M.C.,

Bankesley R.W., Touchman J.W., Green B.D., Dickson M.C.,

A Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

A Cones S. T. Marra M. A.
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Matches 6
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PKELLING....
QBWV03;

O1-MAR-2002 (TrEMBLrel. 20, Created)

O1-MAR-2002 (TrEMBLrel. 20, Last sequence update)

O1-OCT-2004 (TrEMBLrel. 28, Last annotation update)

O1-CT-2004 (TrEMBLrel. 28, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q8QUM8
Q8QUM8;
01-JUN-2002
01-JUN-2002
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
TISSUE=Colon, and Kidney;
MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=21874810; PubMed=11878882; He J.G., Deng M., Weng S.P., Li Z., Chan S.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Viruses; dsDNA viruses, no unclassified Iridoviridae.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Infectious spleen and kidney necrosis virus.
SEQUENCE FROM N.A.
                                                                                                                                                       'Generation and initial analysis
                                                                                                                                                                                             Jones S.J., Marra M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32
                                                                                mouse cDNA sequences.";
c. Natl. Acad. Sci. U.S.
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Similarity 66.7%;
6; Conservative
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Primates;
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Pred. No. 1.9e
2; Mismatches
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Last annotation update)
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                                                                                99:16899-16903 (2002)
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01-OCT-2002 (TrEMBLrel. 22, Cres
01-OCT-2002 (TrEMBLrel. 22, Last
01-MAR-2004 (TrEMBLrel. 26, Last
Hypothetical protein PSEC0251.
Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                   O815Q4 PRELIMINARY; PRT; 522 AA.
0815Q4;
01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
NADH oxidage (NOXASE) (EC 1.6.99.3).
                    SEQUENCE FROM N.A.

MEDLINB=22608415; PubMed=12721630; DOI=10.1038/nature01582;
IVanova N., Sorokin A., Anderson I., Galleron N., Candelon I.
Kapatral V., Bhattacharyya A., Reznik G., Mikhailova N., Lal
Kapatral V., Bhattacharyya E., Larsen N., D'Souza M., Walun
Chu L., Mazur M., Goltsman E., Larsen N., D'Souza M., Walun
Chu L., Wattacharyya A., Fonstein M., Ehrlich S
Grechkin Y., Pusch G., Haselkorn R., Fonstein M., Ehrlich S
Grechkin Y., Pusch G., Haselkorn R., Fonstein M., Ehrlich S
Overbeek R., Kyrpides N.C.;
                                                                                                                                                                                                                ORFNames=BC5081;
Bacillus cereus (strain ATCC 14579 / DSM 31).
Bacteria; Firmicutes; Bacillales; Bacillaceae
NCBI_TaxID=226900;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

Ota T., Nishikawa T., Suzuki Y., Kawai-Hio Y., Hayashi K
Saito K., Yamamoto J., Wakamatsu A., Nagai T., Nakamura
Nagahari K., Sugano S., Isogai T.;

Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
EMBL, AKO75551; BAC11694.1; -.

SEQUENCE 393 AA; 43806 MW; 3C788AFDF933A23D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Strausberg R.;
Submitted (NOV-2002) to the EMBL/GenBank/DDBJ EMBL; BC019036; AAH19036.1; -.
EMBL; BC039067; AAH39067.1; -.
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EMBL; BC039067; AAH39
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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TISSUE=Colon;
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sequence of
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Pred. No.
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2e+02;
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comparative analysis with
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Nakamura Y.,
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                                                                                                   Lapidus A.,
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Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bao Q., Tian Y., Li W., Xu Z., Xuan Z., Hu S., Don Chen Y., Xue Y., Xu Y., Lai X., Huang L., Dong X., Tan H., Chen R., Wang J., Yu J., Yang H., Dong X., Tan H., Chen R., Wang J., Yu J., Yang H.;

"A complete sequence of the T. tengcongensis genor Genome Res. 12:689-700(2002).

EMBL; AB013021; AAM237841; -.

EMBL; AB013021; AAM237841; -.

GO; GO:0009286; C:flagellum (sensu Bacteria); IEA GO; GO:0009296; P:flagellum biogenesis; IEA.

InterPro; IPR010810; Flagellin_IN.

InterPro; IPR010810; Flagellin_IN.

InterPro; IPR010810; FliD_C.

InterPro; IPR010810; FliD_N.

Pfam; PF07196; Plagellin_IN; 1.

Pfam; PF07195; FliD_C; 1.

Pfam; PF07195; FliD_C; 1.

Complete protecme; Flagellum.

SEQUENCE 529 AA; 58032 MW; IF31EB63C1623A19 CI
                                                                                                                                     Q9RKFO PRELIMINARY;
Q9RKFO;
O1-MAY-2000 (TremBLrel. 13, I
O1-MAY-2000 (TremBLrel. 13, I
O1-JUN-2003 (TremBLrel. 24, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillus anthracis.";
Nature 423:87-91(2003).
EMBL; AE017014; AAP11950.1; -.
GO; GO:0003994; F:NADH dehydrogenase activity; IEA.
GO; GO:0016491; F:oxidoreductase activity; IEA.
Oxidoreductase.
                                      Putative hydrolase.
OrderedLocusNames=SCO3487; ORFNames=SCE65.23;
Streptomyces coelicolor.
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Thermoanaerobacter tengcongensis.
Bacteria; Firmicutes; Clostridia; Thermoanaerobacteriales;
Thermoanaerobacteriaceae; Thermoanaerobacter.
Streptomycineae; Streptomycetaceae; NCBI_TaxID=1902;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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Last annotation update)
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1; Mis
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Pred. No. 2.7e-
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 37;
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                       Streptomyces
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2.7e+02;
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∠.7e+02;
2;
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RESULT

MBL; ACUURANCE,
PIR; T02130; T02130.

GO; GO:0003677; F:DNA binding; IEA.
GO; GO:0003677; F:DNA binding; IEA.

GO; GO:0003242; P:intracellular signaling cascade; IEA.

GO; GO:0006355; P:regulation of transcription, DNA-dependent; IEA

R InterPro; IPR011424; Cl 3.

R InterPro; IPR002219; DAG PE-bind.

INTERPRO; IPR002219; DAG PE-bind.

INTERPRO; IPR002146; DC1.

INTERPRO; IPR000146; DC1.

INTERPO; IPR000034; Peptidase_M14.

DR InterPro; IPR0001965; Znf_PHD.

DR InterPro; IPR001965; Znf_PHD.

DR InterPro; IPR001965; Znf_PHD.

Pfam; PF03107; Cl 2; 3.

Pfam; PF03107; Cl 2; 3.
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Best Local S
Matches 6
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O80692;
01-NOV-1998 (TrEMBLrel. C
01-NOV-1998 (TrEMBLrel. C
01-MAR-2004 (TrEMBLrel. 2
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MEDLINE=21996410; PubMed=12000953; DOI=10.1038/417141a;
Bentley S.D., Chater K.F., Cerdeno-Tarraga A.-M., Challis G.L.,
Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H.,
Harper D., Bateman A., Brown S., Chandra G., Chen C.W., Collins M.,
Cronin A., Fraser A., Goble A., Hidalgo J., Hornsby T., Howarth S.,
Huang C.-H., Kieser T., Larke L., Murphy L.D., Oliver K., O'Neil S.,
Rabbinowitsch E., Rajandream M.A., Rutherford K.M., Rutter S.,
Seeger K., Saunders D., Sharp S., Squares R., Squares S., Taylor K.,
Warren T., Wietzorrek A., Woodward J.R., Barrell B.G., Parkhill J.,
Hopwood D.A.;
"Complete Seed Control of the Complete Seed Complete Seed Control of the Cont
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VYSOCERAIA V.S., Schwartz J.R., Toriumi M., Kwan

VYSOCERAIA V.S., Schwartz J.R., Toriumi M., Kwan

Liu S., Li J., Araujo R., Au M., Brendel V., Bueh

Conway A.R., Dewar K., Feng J., Kim C., Kurtz D.,

Shinn P., Sun H., Davis R.W., Ecker J.R., Federsp
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coelicolor A4(2).";

Nature 417:141-147(2002).

EMBL; AL939116; CAB61811.1; -.

GO; GO:0016787; F:hydrolase activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidopsis thaliana (Mouse-ear cress).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosid
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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Name=F8K4.5;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (AUG-1998) to the EMBL; AC004392; AAC28517.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Theologis;
Submitted (AUG-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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Last annotation update)
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Pred. No.
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Q66N5E JUDY 05-JUDY 05
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QBAB16;
O1-JUN-2003 (TrEMBLrel. 24, Created)
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O1-OCT-2003 (TrEMBLrel. 25, Last annot Putative xanthan lyase XalB.
OrderediocusNames=BT0296;
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SEQUENCE FROM N.A.

STRAIN=VPI-5482 / ATCC 29148;

MEDLINE=22550858; PubMed=12663928;

MEDLINE=22550858, PubMed=12663928;

Xu J., Bjursell M.K., Himrod J., Deng S., Carmichael L.K.,

Chiang H.C., Hopper L.V., Gordon J.I.;

"A genomic view of the human-Bacteroides thetaiotaomicron symbiosis.";

Science 299:2074-2076(2003).

EMBL; AE016927; AA075403.1; -.

GO; GO:0010829; F:lyase activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q6N5D8;
Q6N5D8;
05-JUL-2004;
05-JUL-2004;
05-JUL-2004;
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SMART; SM00249; PHD; 4.
PROSITE; PS00113; CARBOXYPEPT ZN 2; UNKNOWN 1.
SEQUENCE 814 AA; 93000 MW; EE8E79A280002C74 CRC64;
                   SEQUENCE FROM N.A.

STRAIN=CGA009 / ATCC BAA-98;
PubMed=14704707; DOI=10.1038/nbt923;
PubMed=14704707; DOI=10.1038/nbt923;
Larimer F.W., Chain P., Hauser L., Lamerdin J.E., Malfatti Land M.L., Pelletier D.A., Beatty J.T., Lang A.S., Tabita F Gibson J.L., Hanson T.E., Bobst C., Torres y Torres J.L., F Harrison F.H., Gibson J. Harwood C.S.;
Harrison F.H., Gibson J., Harwood C.S.;
"Complete genome sequence of the metabolically versatile photosynthetic bacterium Rhodopseudomonas palustris.";
                                                                                                                                                                                                                                                                                                                   Rhodopseudomonas palustris.
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Bradyrhizobiaceae; Rhodopseudomonas.
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Bacteria; Bacteroidetes; Bacteroides
                                                                                                                                                                                                                                                                                                                                                                                                 Hypothetical protein.
OrderedLocusNames=RPA3041;
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EMBL, BX572602; CAE28482.1; -.
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ProDom; PD010195; Surf4_rel; 1.

Complete proteome; Hypothetical protein.

SEQUENCE: 149 AA; 15385 MW; 3D765810D9228D43 CRC64;
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Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Bradyrhizobiaceae; Rhodopseudomonas.
                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                     EMBL; BX57260
Hypothetical
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SEQUENCE FROM N.A.
STYN-CGA009 / ATCC BAA-98;
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Gangliosi	Gangliosi	Gangliosi	Murine im	pKM641 LA	KM641 H c	Rat immun	Humanised	Humanised	Humanised	Humanised	F(ab)-12	Anti-VEGF	Humanised	Anti-VEGF	Anti-VEGF	Anti-VEGF	Anti-VEGF		* (1)

## ALIGNMENTS

## ARESULT 1 ARAW7061 ID AAW7 XX AAW7061 AC AAW7 XX AC AAW7 XX AC AAW7 XX XX Anti XX YEGG KW anti KW VEGG KW anti KW VEGG KW anti KW VEGG KW anti EW XX YEGG KW ANTI EW XX YO Light chain hypervariable region; murine; humanised antibody; anti-vascular endothelial growth factor antibody; anti-VEGF antibody; VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy; rheumatoid arthritis; psoriasis; atherosclerosis; Grave's disease. 07-APR-1997; 06-AUG-1997; 27-JAN-1999 AAW70614; 03-APR-1998; 15-OCT-1998 WO9845331-A2 Mus Synthetic. Anti-VEGF antibody light chain hypervariable region CDRL1. AAW70614 standard; (first entry) 97US-00833504. 97US-00908469. 98WO-US006604. peptide; 11 B

Baca M, Wells JA, Presta LG, Lowman HB, Chen

(GETH ) GENENTECH INC.

WPI; 1998-568337/48.

New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.

Claim 9; Page 80; 100pp; English.

The present sequence represents a light chain hypervariable region of the murine anti-vascular endothelial growth factor (anti-VEGF) antibody. The sequence is used to construct the humanised anti-VEGF antibody of the invention. The humanised antibodies are used to inhibit VEGF-induced angiogenesis, particularly for treating or preventing tumours (of any type) and retinal disorders (e.g. age-related macular degeneration or diabetic retinopathy). They can also be used to treat other conditions that involve angiogenesis, e.g. rheumatoid arthritis, psoriasis,

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RESULT 2
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                                                                 RESULT 3
ABP61183
ID ABP6
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                       diagnosis. of the inv
                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention describes a monoclonal antibody which can react specifically with ganglioside GOA. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ganglioside GD3 specific antibody related peptide SEQ ID NO:
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                    ABP61183;
                                                                 ABP61183 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                          Sequence 11 AA;
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06-APR-2000; 2000JP-00105088.
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nilarity 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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                                                  WO200278739-A1
                                                                                                                                               Ganglioside GD3;
                                                                                                                                                                                               Modified ganglioside
                                                                                                                                                                                                                                               04-FEB-2003
                                                                                                                                                                                                                                                                                              ABU11007
                                                                                                                                                                                                                                                                                                                                            ABU11007 standard; peptide;
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(PRES/)
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                                                                                               musculus.
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WELLS J A.
PRESTA L G.
PMAN H B.
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                                                                                                                                               anti-ganglioside GD3 antibody; tumour; melanoma
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                                    01-MAR-2002; 2002US-0360843P
29-MAY-2002; 2002US-0384197P
                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                           Antibody; stability; solubility; antigen binding affinity;
                                                                                                                                                                                                                                                                                                                                                                                                           ADF09995;
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          Disclosure; Fig
                                                  Computer optimization of physicochemical properties of antibodies comprises analyzing the interactions of amino acids at variable
                                                                                                                 Lazar GA,
                                                                                                                                                                                                           03-MAR-2003; 2003WO-US006598
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                                                                                                                                                                                                                                                                                                              variable region; human.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SASQDISNYLN 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SASQDISNYLN 11
                                                                                                                 Desjarlais
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Niwa R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
            2b; 135pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                   protein; 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kanazawa
                                                                                                                 JR,
                                                                                                                 Marshall SA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 54; DB 6;
Pred. No. 0.0043;
                                                                                                                                                                                                                                                                                                                                                                                                                                      ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Asada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 6; Length 11;
                                                                                                                  Dahiyat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This sequence
3D3 antibody
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RESULT 6
ADP10099
ID ADP1
XX ADP1
AC ADP1
XX VEGF
XX VEGF
XX VEGF
XX VEGF
XX VATi
XX VATi
XX VATi
XX HOMC
XX COM
PF 03-N
XX Lazi
XX WPI
XX Lazi
XX WPI
XX COM
PT COM
P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention relates to a method for optimizing at least one physico-chemical property of an antibody by a computational screening method. The method comprises: receiving a template antibody structure; selecting at least one variable position belonging to the antibody structure; selecting at least one amino acid to be considered at the variable position(s); analyzing the interaction of each selected amino acid at each variable position with at least part of the remainder of the antibody, including the selected amino acids at other variable positions; and identifying a set of at least one antibody sequence with at least one optimized physico-chemical property. The method is useful for optimizing the physico-chemical properties of an antibody sequence with at least one optimized physico-chemical properties of an antibody, especially the stability, solubility, or antigen binding affinity. The optimized antibody may be useful for treating a patient. The present sequence is an antibody variable region sequence used to illustrate the invention.
                           The present invention relates to a method for optimizing at least one physico-chemical property of an antibody by a computational screening method. The method comprises: receiving a template antibody structure; selecting at least one variable position belonging to the antibody structure; selecting at least one amino acid to be considered at the variable position(s); analyzing the interaction of each selected amino acid at each variable position with at least part of the remainder of the antibody, including the selected amino acids at other variable positions; and identifying a set of at least one antibody sequence with at least one optimized physico-chemical property. The method is useful for optimizing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 103 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Computer optimization of physicochemical properties of antibodies comprises analyzing the interactions of amino acids at variable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2003-722066/68.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAR-2002; 2002US-0360843P.
29-MAY-2002; 2002US-0384197P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-SEP-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VEGF antibody light chain variable region 1CZ8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-FEB-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADF10099;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADF10099 standard; protein; 103
                                                                                                                                                                                                                                                                                                                                                                                                 Example 6; Fig 16b; 135pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  positions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lazar GA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (XENC-) XENCOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-MAR-2003; 2003WO-US006598.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    variable region;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antibody; stability; solubility; antigen binding affinity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 SASQDISNYLN 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Desjarlais
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    numan; VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Marshall SA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          00
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.055;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dahiyat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
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physico-chemical properties of an

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RESULT 7
AAW86804
AID BAAW8
XX AAW8
XX AAW8
XX VARI
AC AAW8
XX VARI
COMPT
C6-F
C7 VARI
XX VARI
C7-F
C7 VARI
XX WO98
XX WPI

RESULT 8
AAW86805
ID AAW8
XX
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                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       solubility, or antigen binding affinity. The optimized antibody may be useful for treating a patient. The present sequence is an antibody variable region sequence used to illustrate the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                            hu2.0. This variant contains only the complementarily-determining regions (CDRs) from the murine antibody grafted on to a human light chain K subgroup I and heavy chain subgroup III framework. Antibodies are especially reactive with vascular endothelial growth factor (VEGF) and are used to inhibit growth of tumours by inhibiting mitogenic signalling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 103 AA;
                           AAW86805 standard;
                                                                                                                                                                                                                                                                                                                                                                                Sequence 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New humanised antibody with specific alterations in human framework - specifically reactive with vascular endothelial growth factor, useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wells JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9845332-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Complementarily-determining vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Variable Light
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW86804 standard; protein; 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW86804 is the variable light region of the humanised A4.6.1 variant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 6; Page 30-31; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-OCT-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GETH ) GENENTECH INC
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                                                                                                                                                                                                                 SASQDISNYLN 11
                                                                                                                                                              SASQDISNYLN 34
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SASQDISNYLN 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Васа М,
                                                                                                                                                                                                                                                                   100.0%; Score 54; ilarity 100.0%; Pred. No. Conservative 0; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                Ä,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
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                           protein; 107 AA.
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factor; h
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                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; CDRs; murine; antibody; VEGF; humanised antibody; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 7;
                                                                                                                                                                                                                                                                                               0.058;
                                                                                                                                                                                                                                                                                                                        DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                        Length 107
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                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                      ٥,
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                                                                                                                                                                                                                                                                      Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        for
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RESULT 9
AAW70623
ID 70623
XX AAW7
AC AAW7
AC AAW7
AC Huma
XX Ligh
KW Ligh
KW Anti
KW VEGH
KW age-
KW Age-
KW Age-
KW Age-
KW WOGH
NO 
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAW86805 is the variable light region of the humanised A4.6.1 variant hu2.10. This variant is the consensus humanised Clone obtained from phage sorting experiments. These antibodies are especially reactive with vascular endothelial growth factor (VEGF) and are used to inhibit growth of tumours by inhibiting mitogenic signalling
                                                                                                                                                                                                                                                                              Light variable domain; murine; humanised antibody; anti-vascular endothelial growth factor antibody; anti-VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New humanised antibody with specific alterations in human framework specifically reactive with vascular endothelial growth factor, usefunhibiting tumour growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antibody; VEGF; vascular endothelial growth factor; humanised antibody; tumour; mitogenic; phage sorting.
                                                                                                                                                                                                                                                                                                                                                                                                             Humanised murine antibody A4.6.1 variant hu2.0 variable light domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW70623 standard;
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                                                                                                                                                                                                                                                         rheumatoid arthritis;
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                                                                                                                                                                                                                                                                 Grave's disease.
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Light variable domain; murine; humanised antibody; anti-VEGF antibour; anti-vascular endothelial growth factor antibody; anti-VEGF antibour; retinal disorder; VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy; age-related macular degeneration; atherosclerosis; Grave's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        murine anti-vascular endothelial growth factor (anti-VEGF) antibody variant hu2.0. The sequence is used in the course of the invention to construct the humanised anti-VEGF antibody of the invention. The humanised anti-bodies are used to inhibit VEGF-induced angiogenesis, particularly for treating or preventing tumours (of any type) and retinal disorders (e.g. age-related macular degeneration or diabetic retinopathy). They can also be used to treat other conditions that involve angiogenesis, e.g. rheumatoid arthritis, psoriasis, atherosclerosis, Grave's disease, etc
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                           WPI; 1998-568337/48
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The present endothelial

invention relates to humanised growth factor) antibodies or a

anti-VEGF (vascular variant of a parent

anti-VEGF

Example

2; Fig

5; 47pp; English.

New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraocular neovascular disorder; light chain;
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(PRES/)
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                                                                          The present invention relates to humanised anti-VEGF (vascular endothelial growth factor) antibodies or a variant of a parent anti-VEGF antibody, which binds human VEGF. The anti-VEGF antibodies are useful for inhibiting VEGF-induced angiogenesis in a mammal (particularly a human), particularly those having a tumour or a retinal disorder e.g. intraocular neovascular disorders. The present sequence is an exemplary light chain variable domain of the humanised anti-VEGF antibody of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 107
                                                                                                                                                                                                      New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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retinal disorder; intraocular neovascular disorder; light chain;
                                                  Sequence 107
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                                                                                                                                                                                                                                                                                                          (LOWM/)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
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VEGF-induced angiogenesis; tumour; retinal disorder;
age-related macular degeneration; diabetic retinopathy;
rheumatoid arthritis; psoriasis; atherosclerosis; Grave
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97US-00908469
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                                                                                                      peptide; 108
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                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 108
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06-AUG-1997;
                                                        Light variable domain; murine; humanised antibody; anti-vascular endothelial growth factor antibody; anti-VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy;
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                                                                                                                                                                                            AAW70696;
                                                                                                                                                                                                                     AAW70696 standard;
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VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy;
                Synthetic
                                                                                                                                Anti-VEGF humanised antibody F(ab)-12 variable light domain
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                                             rheumatoid
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                                            arthritis; psoriasis; atherosclerosis; Grave's
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97US-00908469
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Pred. No
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RESULT 16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
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                           30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
                                                                                                                                                                                                        Ganglioside
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 108 AA;
                                                                  29-SEP-2000; 2000WO-JP006774.
                                                                                           05-APR-2001
                                                                                                                   WO200123432-A1
                                                                                                                                           Synthetic.
                                                                                                                                                                                Ganglioside;
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                                                                                                                                                                                                                                                           AAB81988;
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06-AUG-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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97US-00908469.
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(KYOW ) KYOWA HAKKO KOGYO KK

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Query Match
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                                      The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                         New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
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06-APR-2000; 2000JP-00105088
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Sequence 108 AA;
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Murine anti-VEGF

muMabVEGF

A.4.6.1

antibody variable light

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RESULT 20
ABP61265
ID ABP61267
XX ABP61
XX ABP61
XX ABP61
XX CO-SE
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                                                                                                                                                                                                    Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraocular neovascular disorder; light chain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New
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                                                                                                                                                                                                                                                                                                            Humanised anti-VEGF
                                                                                                                                                                                                                                                                                                                                                                20-SEP-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1; Fig 1; 47pp; English.
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  Misc-difference
                                                                           Synthetic
                                                                                                                                                                                 variable domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABP61265 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-AUG-1997;
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                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (PRES/)
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nes 11; Conserv
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their variants, useful for inhibiting VEGF-induced angiogenesis in a
nmal, particularly for treating tumor or retinal disorders.
                                                                                                      gp.
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LOWMAN H B.
CHEN Y M.
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Location/Qualifiers
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Pred. No. 0.0
0; Mismatches
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RESULT 21
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AC ABP61
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XW Cytos
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XW Ilght
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                                                                                                                                                                                                                                                                                                                                                                               Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraocular neovascular disorder; F(ab) (F(ab)-12);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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                                                       06-AUG-1997;
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                                                                                                      06-APR-1998;
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                                                                                                                                                                                                                                                      Synthetic.
                                                                                                                                                                                                                                                                                                        Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABP61187 standard; protein; 108 AA.
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     (BACA/) BACA M.
                                                                                                                                                                                                                                                                                                                                                          light chain;
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) WELLS J A.
) PRESTA L G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     anti-VEGF F(ab) (F(ab)-12) antibody variable light domain.
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                                                       97US-0054856P
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Pred. No. 0.058;
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RESULT 22
ABUILT 12
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                                 The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumous competents are the combination of 
                                                                                                                                                                                                                                                                                                               Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
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    antitumor activity
like melanoma and c
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                                                                                                                                                                                                                                    8; Page 100; 121pp; Japanese.
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PRESTA L G.
LOWMAN H B.
CHEN Y M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KYOWA HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Niwa R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kanazawa
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RESULT 24 ADG31770 ID ADG3 XX

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RESULT 23
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Best Local S
Matches 11
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                                                                                                                                                                                                                                                                                                                                                                                                                    The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Drugs containing genetically-modified antibody against ganglioside GD3 its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
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                                                                                                                                                                                                                                                                                                                                                Sequence 108 AA;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This invention relates to a novel method for the generation and screening CC of a protein library in silico. Specifically, it refers to a high-ct throughput method optimised for the identification of anti-VEGF (vascular cc endothelial growth factor) antibodies with improved binding affinities cf or their target antigen (VEGF), using computational prediction. The CC present invention describes selecting proteins with a desirable function based on their structural similarity to the target structural or CC functional motif of a lead protein of interest. Accordingly, these protein libraries are functionally biased with increased diversity so as to increase the chance of identifying novel hits or combinations of CC mutants with enhanced binding affinity. Furthermore, the sequence profile based on the multiple structure alignment of the available lead structure allows the sampling of a larger sequence space than by traditional, cultiple sequence alignment approaches. This polypeptide sequence is the V(L) domain of affinity matured humanised murine anti-VEGF antibody, used in an exemplification of the invention.
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                                                      V(L) domain of the anti-VEGF two chain antibody AM2 protein SeqID 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Constructing antibody libraries for generating protein libraries with improved biological function comprising selecting from tester protein sequences two peptide segments having 15% sequence identity with the lead
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Luo
protein library; in silico; VEGF; vascular endothelial growth factor;
                                                                                                                            26-FEB-2004
                                                                                                                                                                                                                                                ADG31782 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 108
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20-MAY-2002; 2002US-00153176.
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                                                protein library; in silico; VEGF; vascular endothelial growth factor; antibody; computational prediction; V(H) domain; mouse; murine.
                                                                                               V(L) domain of parental humanised murine anti-VEGF antibody SeqID2.
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                                                                                                                                                              ADG31768;
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                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 108 AA;
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                                                                                                                                                                                                                                                                                              protein library; in silico; VEGF; vascular endothelial antibody; computational prediction; V(1) domain.
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20-MAY-2002; 2002US-00153176.
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CC throughput method optimised for the identification of anti-VEGF (vascular cendothelial growth factor) antibodies with improved binding affinities compressed in their target antigen (VEGF), using computational prediction. The gresent invention describes selecting proteins with a desirable function compassed on their structural similarity to the target structural or composed on their structural similarity to the target structural or control motif of a lead protein of interest. Accordingly, these control motif of a lead protein of interest accordingly, these control interests are functionally biased with increased diversity so as to increase the chance of identifying novel hits or combinations of composed on the multiple structure alignment of the available lead structure alignment of the available lead structure allows the sampling of a larger sequence space than by traditional, composed the sequence of various anti-VEGF antibodies, used in an example control of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tight variable domain; murine; humanised antibody; anti-vascular endothelial growth factor antibody; anti-VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rheumatoid arthritis; psoriasis; atherosclerosis; Grave's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Anti-VEGF
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Pred. No. 0.058;
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VEGF-induced angiogenesis; tumour; retinal disorder;
age-related macular degeneration; diabetic retinopathy;
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                          New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
                                                                                                                                                          07-APR-1997;
06-AUG-1997;
                                                                                                                                                                                                                                                                                                         Synthetic.
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 Example 3; Fig 9A; 100pp; English
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                                                                                                                                  (GETH ) GENENTECH
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                                                                                                                                                                                                                                                                                                                                 arthritis; psoriasis; atherosclerosis; Grave's disease
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Conservative
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                                                                                                                                                                                                                                                                                                                                                                                    domain; murine; humanised antibody;
                                                                                                                                                          97US-00833504.
97US-00908469.
                                                                                                                                                                                                  98WO-US006604.
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RESULT 30
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AC AAW70
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XX Lish
DE Anti-
XX Lish
CS Anti-
XW Lish
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Matches 11
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                                                                                                                                                                                                                                                                                      New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
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06-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Light variable domain; murine; humanised antibody; anti-
anti-vascular endothelial growth factor antibody; anti-
VEGF-induced angiogenesis; tumour; retinal disorder;
age-related macular degeneration; diabetic retinopathy;
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                                                                                                                                                                                                                                            Claim 27; Fig 10A; 100pp; English.
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97US-00908469.
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Pred. No.
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. 0.059;
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The present sequence represents a variable light domain of an affinity-matured anti-vascular endothelial growth factor (anti-VEGF) antibody variant. The sequence is used in the course of the invention to produce the humanised anti-VEGF antibody of the invention. The humanised anti-VEGF antibody of the invention. The humanised for treating or preventing tumours (of any type) and retinal disorders (e.g. age-related macular degeneration or diabetic retinopathy). They calso be used to treat other conditions that involve angiogenesis, e.g. rheumatoid arthritis, psoriasis, atherosclerosis, Grave's disease, etc

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RESULT 31
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XW Light
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06-AUG-1997;
                                                                                                                                                                                                          Sequence 110 AA;
                                                                                                                                                                                                                                                    for treating or preventing tumours (of any type) and retinal disorders (e.g. age-related macular degeneration or diabetic retinopathy). They can also be used to treat other conditions that involve angiogenesis, e.g. rheumatoid arthritis, psoriasis, atherosclerosis, Grave's disease, etc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New humanised antibody with affinity for vascular endothelial growth factor - for treatment of tumours, retinal disease and other angiogenic states, also related nucleic acid, vectors and transformed cells.
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VEGF-induced angiogenesis; tumour; retinal disorder; age-related macular degeneration; diabetic retinopathy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Anti-VEGF humanised antibody variable light domain of variant H2305.6.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAW70675;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAW70675 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Light variable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rheumatoid arthritis; psoriasis; atherosclerosis; Grave's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                              Local Similarity
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24
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Similarity 100.0%;
                                              SASQDISNYLN 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wells JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SASQDISNYLN 34
SASQDISNYLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fig
                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9A; 100pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97US-00833504.
97US-00908469.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  domain; murine; humanised antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98WO-US006604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             peptide; 110
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                                                                                                                           100.0%;
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Pred. No.
                                                                                                                           Score 54;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lowman HB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ŗ
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                                                                                                        Mismatches
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                                                                                                                           .059;
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                                                                                                                                                 Length 110;
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                                                                                                     Indels
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                                                                                                  Gaps
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RESULT 33
AAB13380
ID AAB1
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AC AAB1
XX

AAB13380 standard;

protein; 110

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AAB13380;

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ARBSULT 32
ARBOS897
ID ARBOS897
XX ARBOS87
XX ARBOS
XX 17-OC
XX Human
XX Human
XX Human
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AND I 17-OC
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                                                                                                                                                                                                                                                                                                          The present sequence is the light chain variable domain of F(ab)-12, a humanised anti-vascular endothelial growth factor (VEGF) antibody. F(ab)-22 (12 was the parent antibody used in the production of a large number of antibody variants containing randomised peptide inserts within the complementarity determining regions (CDRs). Phage display libraries were subjected to eight rounds of selection to isolate variants with an antigen binding affinity at least two-fold stronger than the binding affinity of parent antibody for the target VEGF antibody. The anti-VEGF antibody variants may be useful in diagnostic assays for detecting expression of VEGF in cells, tissue or serum. They may also be used in the prevention and treatment of neoplastic diseases such as breast cancer, lung cancer and retinoblastoma, and non-neoplastic diseases including rheumatoid arthritis, psoriasis, atherosclerosis, and diabetic and other proliferative retinopathies
                                                                                                                      Query Match
Best Local S
Matches 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Humanised; F(ab)-12; light chain variable domain; antibody variant; phage display; randomised library; cytostatic; antiarthritic; antiquiabetic; antiinflammatory; antiarteriosclerotic; vascular endothelial growth factor; VEGF; breast cancer; lung cancer; retinoblastoma; rheumatoid arthritis; psoriasis; atherosclerosis; diabetic retinopathy; complementarity determining region; CDR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Antibody variants with higher binding affinity than native antibodies useful for diagnosis, prevention and treatment of neoplastic and non-neoplastic diseases comprises amino acid insertion in hypervariable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB05897 standard; peptide; 110
                                                                                                                                                                                                                                                       Sequence 110 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
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24
                                                                                                                   11;
                                                             1 SASQDISNYLN 11
                                                                                                                                                            Similarity
SASQDISNYLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lowman HB,
                                                                                                                             Conservative
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34
                                                                                                                                                     100.0%;
                                                                                                                                                                                       100.0%;
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                                                                                                                                                        Score 54; DB 3;
Pred. No. 0.059;
                                                                                                                             Mismatches
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                                                                                                                                                                                              DB 3;
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RESULT 34
AAB13376
ID AAB13
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                                                                                                                                                                                                                                                  CC The present sequence is the light chain variable region of the affinity CC matured anti-vascular endothelial cell growth factor (anti-VEGF) antibody CC YO317. Humanised F(ab)-12 and affinity matured anti-VEGF antibodies may CC be used to treat conditions characterised by undesirable excessive CC neovascularisation. Such conditions include tumours (especially solid cones), rheumatoid arthritis, psoriasis, atherosclerosis, diabetes and CC other retinopathies, retrolental fibroplasia, age-related macular GC (including Grave's disease), corneal and other tissue transplantation, cc (including Grave's disease), corneal and other tissue transplantation, CC and chronic inflammation. Oedemas associated with tumours, strokes and CC head trauma, and ascites associated with malignancies, meig's syndrome, CC lung inflammation, nephrotic syndrome, pericardial effusion and pleural CC lung inflammation, nephrotic syndrome, pericardial effusion and pleural CC hybridoma cells and those with affinity for VEGF are identified by immunoprecipitation or by an in vitro binding assay
                                                                                                                                                       Query Match
Best Local S
Matches 11
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 AAB13376 standard; protein; 110 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig 14A; 60pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Treating edema, tumors, rheumatoid arthritis, psoriasis, atherosclerosis, diabetes and chronic inflammation in a mammal, comprises administering a human vascular endothelial cell growth factor antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2000-442646/38
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Region
                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Van Bruggen N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-JUN-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         complementarity determining region; CDR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             antiinflammatory; cerebroprotective; cytostatic; antirheumatic;
antiarthritic; antipsoriatic; antiarteriosclerotic; antidiabetic;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YO317; vascular endothelial cell growth factor; VEGF; antibody;
                                                                                       24
                                                                                                                                                    ch 100.0%;
1 Similarity 100.0%;
11; Conservative (
                                                                                                                                                                                                                             110
                                                                                       SASODISNYLN
                                                                                                                       SASQDISNYLN 11
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89. .97
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'label= CDR-L3
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                                                                                                                                                       Score 54; DB 3; Pred. No. 0.059; Mismatches
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                                                                                                                                                                                      Length 110;
                                                                                                                                                         Indels
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                                                                                                                                                       Gaps
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SASQDISNYLN 11

Query Match Best Local S Matches 11

Similarity

100.0%; ilarity 100.0%; Conservative (

0

Score 54; DB 3; Pred. No. 0.059; Mismatches

Length 110;

0

Gaps

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The present sequence is the light chain variable domain of humanised anti CC -vascular endothelial cell growth factor (anti-VEGF) antibody F(ab)-12. CC It may be used to treat conditions characterised by undesirable excessive CC nevvascularisation. Such conditions include tumours (especially solid CC ones), rheumatoid arthritis, psoriasis, atherosclerosis, diabetes and CC ther retinopathies, retrolental fibroplasia, age-related macular CC degeneration, neovascular glaucoma, haemangiomas, thyroid hyperplasias CC (including Grave's disease), corneal and other tissue transplantation, and ascites associated with tumours, strokes and CC head trauma, and ascites associated with malignancies, meig's syndrome, CC lung inflammation, nephrotic syndrome, pericardial effusion and pleural CC effusion, may also be treated. Affinity matured anti-VEGF antibodies are also used as therapeutic agents. Monoclonal antibodies are generated in CC hybridoma cells and those with affinity for VEGF are identified by CC immunoprecipitation or by an in vitro binding assay. (Updated on 12-SEP-CC 2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Humanised; F(ab)-12; vascular endothelial cell growth factor; VEGF; antibody; antiinflammatory; cerebroprotective; cytostatic; antirheumatic antiarthritis; antipsoriatic; antiarteriosclerotic; antidiabetic; antithyroid; excessive neovascularisation; tumour; rheumatoid arthritis; psoriasis; atherosclerosis; diabetes; retrolental fibroplasia; neovascular glaucoma; haemangioma; thyroid hyperplasia; Grave's disease; tissue transplantation; inflammation; oedema; trauma;
                                                                                                                                                                                                                                                                                                                                                                Treating edema, tumors, rheumatoid arthritis, psoriasis, diabetes and chronic inflammation in a mammal, comprises human vascular endothelial cell growth factor antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus
Sequence
                                                                                                                                                                                                                                                                                                                                 Disclosure; Fig 14A; 60pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09-DEC-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-DEC-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                          2000-442646/38.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      determining region; CDR.
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                                                                                                                                                                                                                                                                                                                                                                                     atherosclerosis, administering a
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                                                                                                                                                                                                                                   The present invention relates to humanised anti-VEGF (vascular endothelial growth factor) antibodies or a variant of a parent anti-VEGF antibody, which binds human VEGF. The anti-VEGF antibodies are useful for inhibiting VEGF-induced angiogenesis in a mammal (particularly a human), particularly those having a tumour or a retinal disorder e.g. intraocular neovascular disorders. The present sequence is an exemplary light chain variable domain of the humanised anti-VEGF antibody of the invention
                                                                                                                                                                                         Sequence 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Humanised anti-VEGF MB1.6 antibody variable light domain.
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WELLS J A.
PRESTA L G
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CHEN Y M.
                                                                                                                     Similarity
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SASQDISNYLN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
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                                                                                                                                                                                                   Sequence 110 AA;
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) WELLS J A.
) PRESTA L G.
) LOWMAN H B.
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                                                                                                  Conservative
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Pred. No. 0.059;
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                                                                                                                                                                                                                       New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraocular neovascular disorder; H2305.6; light chain;
 ABP61246;
                                                                                                                        Sequence 110 AA;
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                 ABP61246 standard;
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                                                                                               Local Similarity
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PRESTA L G.
LOWMAN H B.
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                protein; 110
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RESULT 39
AAR33257
ID AAR33
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AC AAR33
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DT 25-MA
DT 12-JU
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Matches 11
25-MAR-2003
12-JUL-1993
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                         AAR33257;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          Domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
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                                                                                                                                                                                                                                                                                                                         (PRES/)
                                                                                                                                                                                                                                                                                                                CHEN/)
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(revised)
(first entry)
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The present invention relates to humanised anti-VEGF (vascular endothelial growth factor) antibodies or a variant of a parent anti-VEGF antibody, which binds human VEGF. The anti-VEGF antibodies are useful for inhibiting VEGF-induced angiogenesis in a mammal (particularly a human), particularly those having a tumour or a retinal disorder e.g. intraocular neovascular disorders. The present sequence is an exemplary light chain variable domain of the humanised anti-VEGF antibody of the invention
                                                                                                                                                                                                                                                                       Sequence 110 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New humanized anti-VEGF (vascular endothelial growth factor) antibodies or their variants, useful for inhibiting VEGF-induced angiogenesis in a mammal, particularly for treating tumor or retinal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cytostatic; ophthalmological; humanised; antibody; anti-VEGF; VEGF; vascular endothelial growth factor; angiogenesis inhibitor; tumour; retinal disorder; intraocular neovascular disorder; Y0101; light chain;
  AAR33257 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 3; Fig 9; 47pp;
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WELLS J A.
"RESTA L G.
"MAN H B.
Y M.
                                                                                                                                                                                                             Similarity
                                                                                                                                              SASQDISNYLN 11
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                                                                                                     SASQDISNYLN
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protein;
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Pred. No.
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RESULT 40
AAR53340
ID AAR53
XX AAR53
XX AAR53
XX IB-NO
XX MONOC
XX MONOC
KW MONOC
KW EXPRE
KW CONST
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Matches 11
                                                                                              Monoclonal antibody; Ab; ganglioside GM2; chimera; chimeric antibody; expression vector; heavy; light; chain; hypervariable region; CDR; constant region; hybridoma; Ig; immunoglobulin; promoter; enhancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                          The sequences given in AAR33256-57 represent rat heavy and light chain variable regions respectively. The DNA sequences encoding these proteins were used in the construction of humanised chimeric antibody expression vectors. In these humanised antibodies none of the amino acids of the non-human animal Ab variable region have been changed. (Updated on 25-MAR-non-human animal Ab variable region have been changed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Humanised chimeric antibody prodn. against ganglioside {\tt GD3} - for treating cancers, such as melanoma, neuroblastoma, etc.
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AU9346181-A
                                                                             Mus musculus
                                                                                                                                                      KM641 H chain variable region.
                                                                                                                                                                                 18-NOV-1994
                                                                                                                                                                                                                                  AAR53340 standard;
                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 6; Page 30-31; 63pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rat immunoglobulin L chain varible region of pKM641LA2
                                     Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                 correct
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                                                                                                                                                                                (first entry)
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                    1. .20
/label= sig_peptide
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                                                  Location/Qualifiers
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                                                                                                                                                                                                                                  protein; 128 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         antibody; expression vector.
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Pred. No.
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0.071;
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Search completed: December 17, 2004, 18:29:03 Job time : 34.4326 secs

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                                                   Query Match
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Matches 11
                                                                                                                                Example 2 describes the construction of the vector pChi641HA1 for chimeric human antibody H chain expression. mRNA from mouse anti-GD3 monoclonal Ab KM641-producing cells was isolated and KM641 H and L chain cDNAs isolated. The base sequences of the Ig variable regions in KM641 H chain cDNA (pKM641HA3) and KM641 L chain cDNA (pKM641LA2) are given in AAQ45438-39. A KM641-derived chimeric human Ab H chain expression vector was constructed by joining the H chain variable region gene from pKM641HA3 to a vector for chimeric human Ab H chain expression using the synthetic DNAs given in AAQ63439 and AAQ63440
                                                                                                                                                                                                                                                                                                                                         WPI; 1994-126857/
N-PSDB; AAQ45438.
                                                                                                                                                                                                                                                                                                  Humanised antibody specific for ganglioside GM2 - used for producing a cytocidal effect on cancers such as melanoma, neuroblastoma and glioma.
                                                                                                                                                                                                                                                                                                                                                                                                                                          07-SEP-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-MAR-1994.
                                                                                                         Sequence 128 AA;
                                                                                                                                                                                                                                                                        Example 2; Page 115-116; 191pp; English.
                                                                                                                                                                                                                                                                                                                                                                                     Nakamura K,
                                                                                                                                                                                                                                                                                                                                                                                                               (KYOW ) KYOWA HAKKO
                                                                                                                                                                                                                                                                                                                                                          1994-126857/16.
44
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                 1 SASQDISNYLN 11
                                                                 Similarity
SASQDISNYLN
                                                      Conservative
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Maximum DB
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Perfect score:
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        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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109.302 Million cell updates/sec
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        Issued Patents AA: *
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/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
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US-09-225-3228-10
US-09-225-3228-10
US-09-264-304-19
US-09-764-304-19
US-09-764-304-19
US-09-764-304-19
US-09-764-304-19
US-09-866-658A-4
US-08-649-100-27
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US-08-851-362D-28
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US-08-851-362D-28
US-08-851-362D-38
US-08-851-362D-38
US-08-851-362D-38
US-08-851-362D-39
US-08-649-100-17
US-08-053-451B-74
US-08-053-451B-74
US-08-053-451B-79
US-08-137-117D-37
US-08-649-100-17
US-08-649-100-13
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Compugen Ltd.
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                                                 Sequence 94, Appl
Sequence 10, Appl
Sequence 10, Appl
Sequence 10, Appl
Sequence 4, Appl
Sequence 76, Appl
Sequence 11, Appl
Sequence 17, Appl
Sequence 27, Appl
Sequence 27, Appl
Sequence 28, Appl
Sequence 28, Appl
Sequence 28, Appl
Sequence 31, Appl
Sequence 74, Appl
Sequence 74, Appl
Sequence 74, Appl
Sequence 74, Appl
Sequence 37, Appl
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                                       Sequence
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GENERAL INFORMATION:

APPLICANT: SHITARA, KENYA
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAMA, MAMORU
APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/09/225,322B
CURRENT FILING DATE: 1999-01-05
PRIOR APPLICATION NUMBER: US 08/454,680
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-05-31
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-03-21
PRIOR APPLICATION NUMBER: US 08/408,133
PRIOR FILING DATE: 1995-08-17
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US-09-440-781-94
                                                                                                                                                                                                                                                                                                                                   RESULT 2
                                                                                                                                                                                                                                                              Sequence 10, Application US/09225322B Patent No. 6437098 GENERAL INFORMATION:
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<b>4</b> 5	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	49
87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	90.7
214	214	214	214	214	214	127	127	127	109	109	107	107	107	107	107	105	112
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US-08-788-800-11	US-07-934-373C-40	US-07-934-373C-39	US-07-934-373C-24	US-08-458-516-12	US-08-425-763-1	PCT-US95-15716-4	US-08-348-548-4	US-08-458-516-5	US-08-437-642B-47	US-07-934-373C-47	US-09-254-189-1	US-08-652-558-35	US-08-652-558-2	US-08-458-516-9	US-08-458-516-8	US-08-851-362D-24	US-08-487-761-13
Sequence 11, Appl	Sequence 40, Appl	Sequence 39, Appl	•	Sequence 12, Appl	Sequence 1, Appli	Sequence 4, Appli	Sequence 4, Appli	Sequence 5, Appli	Sequence 47, Appl	Sequence 47, Appl	_	Sequence 35, Appl	Sequence 2, Appli	Sequence 9, Appli	Sequence 8, Appli	•	Sequence 13, Appl

ALIGNMENTS

## ; ORGANISM: artificial sequence ; FEATURE: ; NAME/KEY: artificial ; LOCATION: 1-110 ; OTHER INFORMATION: humanized antibody light chain variable domain US-09-440-781-94 Sequence 94, Application US/09440781 PACENT NO. 6632926 GENERAL INFORMATION: APPLICANT: YVONME MAN-yee Chen et al. TITLE OF INVENTION: ANTIBODY VARIANTS FILE REFERENCE: P1469R1 CURRENT APPLICATION UNMBER: US/09/440,781 CURRENT FILING DATE: 1999-11-16 NUMBER OF SEQ ID NOS: 99 SEQ ID NO 94 LENGTH: 110 TYPE: PRT Query Match Best Local Similarity Matches 11; Conserv 24 SASQDISNYLN 34 SASQDISNYLN 11 Conservative 100.0%; <u>.</u> Score 54; I Pred. No. 0. Mismatches 멂 .02; 4; ٥, Length 110; Indels

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Gaps

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APPLICANT: KUWANA, YOSHIHISA

APPLICANT: KUWANA, YOSHIHISA

TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY

FILE REFERENCE: 249-101

CURRENT PILING DATE: 1999-01-05

PRIOR APPLICATION NUMBER: US 08/454,680

PRIOR APPLICATION NUMBER: US 08/408,133

PRIOR PILING DATE: 1995-03-21

PRIOR APPLICATION NUMBER: US 08/408,133

PRIOR PILING DATE: 1995-03-21

PRIOR APPLICATION NUMBER: US 08/292,178

PRIOR APPLICATION NUMBER: US 08/292,178

PRIOR APPLICATION NUMBER: US 08/375

PRIOR PILING DATE: 1992-09-17

PRIOR APPLICATION NUMBER: US 03-238375
RESULT 4
US-09-764-304-10
US-09-764-304-10
; Sequence 10, Application US/09764304
; Patent No. 6495666
; GENERAL INFORMATION:
; APPLICANT: SHITARA, KENYA
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PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3-238375
PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 10
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LENGTH: 128
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PRIOR FILING DATE: 1992-09-17
PRIOR APPLICATION NUMBER: JP 3
PRIOR FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Ver.
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APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              equence 19, Application US/09225322B
                                                                                                                                                                                                                                                                                                                                                    FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:light chain
OTHER INFORMATION: variable region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 128
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: Description of Artificial Sequence: cDNA KM-641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
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Pred. No.
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APPLICANT: HANAI, NOBUO
APPLICANT: HANAI, NOBUO
APPLICANT: HASEGAWA, MAMORU
APPLICANT: HASEGAWA, MAMORU
APPLICANT: KUWANA, YOSHIHISA
TITLE OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 1999-01-05
EARLIER FILING DATE: 1999-01-05
EARLIER FILING DATE: 1995-03-21
EARLIER FILING DATE: 1995-03-21
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER FILING DATE: 1994-08-17
EARLIER FILING DATE: 1994-08-17
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
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EARLIER FILING DATE: 1995-05-31
EARLIER APPLICATION NUMBER: US 08/408,133
EARLIER FILING DATE: 1995-03-21
EARLIER APPLICATION NUMBER: US 08/292,178
EARLIER FILING DATE: 1994-08-17
EARLIER APPLICATION NUMBER: US 07/947,674
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER APPLICATION NUMBER: US07/947,674
EARLIER APPLICATION NUMBER: UP 3-238375
EARLIER FILING DATE: 1991-09-18
                                                                                                                                        EARLIER FILING DATE: 1991-09-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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Best Local Similarity
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LENGTH: 128
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APPLICANT: MIYAJI, HIROMASA
APPLICANT: KUWANA, YOSHIHISA
TITLB OF INVENTION: PROCESS FOR PRODUCING HUMANIZED CHIMERA ANTIBODY
FILE REFERENCE: 249-101
CURRENT APPLICATION NUMBER: US/09/764,304
CURRENT FILING DATE: 2001-01-19
EARLIER APPLICATION NUMBER: 09/225,322
EARLIER FILING DATE: 1999-01-05
EARLIER FILING DATE: 1999-01-05
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APPLICANT: HASEGAWA, MAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
OTHER INFORMATION: cDNA KM-641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT ORGANISM: Artificial Sequence
                          ORGANISM: Artificial Sequence FEATURE:
                                                                                    TYPE: PRT
OTHER INFORMATION: light chain
                                                                                                           LENGTH: 128
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RESULT 7
US-08-480-434-76
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US-09-386-658A-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/386,658A
CURRENT FILING DATE: 1999-08-31
NUMBER OF SEQ ID NOS: 4
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Erlanger, Berna
APPLICANT: Chen, Bi-Xing
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APPLICANT: Charles C. Ditlow, et al.

TITLE OF INVENTION: ATHEROSCLEROTIC PLAQUE SPECIFIC ANTIGENS,

ANTIBODIES THERETO, AND USES THEREOF
                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION Release #1.24
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/480,434
FILING DATE: 07-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: ANTIBODIES SPECIFIC FOR FULLERENES FILE REFERENCE: 0575/54182
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 7606
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 854-3660
TELEPAX: (415) 854-3694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Mouse
                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                 STREET: 1155 Aver
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036
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Pred. No. 0.067;
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Pred. No. 0.024;
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US-08-480-434-76
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                                                                                               US-08-053-451B-76
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                                                                                                                                                                                                                                                               COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/053,451B
FILING DATE: 26-APR-1993
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAMB: Halluin, Albert P.
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 7606-033-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-854-360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                        Matches
                                                    Query Match
Best Local (
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Best Local Similarity
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                                                                                                                                                                                                                            TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
TYPE: amino acid
                                                                                                                        TOPULCULE TYPE: D
                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                              HYPOTHETICAL:
ANTI-SENSE: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
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                                                                                                                                                                  TYPE: amino acid
STRANDEDNESS: unl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS: unknown
                                                                                                                                                                                                                                                      TELEFAX:
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                                      1 Similarity
10; Conserv
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2 ASQDISNYLN 11
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                                                                                                                                                                                                 11 amino acids
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Ditlow, Charles C.
Calenoff, Emanuel
VENTION: ATHEROSCLEROTIC PLAQUE SPECIFIC
VENTION: ANTIGENS, ANTIBODIES THERETO, AND USES THEREOF
                                                                                                                                                                                                                                                        415-854-3694
                                        Conservative
                                                                                                                                                       unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
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                                                                                                                                                                     unknown
                                                    92.6%;
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Pred. No.
                                        Mismatches
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0.0076;
                                                     0.0076;
                                                                  DB 2;
                                                                  Length 11;
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; TOPOLOGY: linear; MOLECULE TYPE: peptide US-08-649-100-11
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                                                                                                                                                                                                                                                                                                      US-08-649-100-27
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FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MURPHY JR, GERALD M
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1110-160
TELEPHONE: (703) 205-8050
INFORMATION FOR SEQ ID NO: 11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
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Patent No. 6114507
GENERAL INFORMATION:
APPLICANT: SHIRAKAWA, KAMON
APPLICANT: MATUSUB, TONOKAZU
                                                                                                                                                                                                                                         Sequence 27, Application US/08649100 Patent No. 6114507 GENERAL INFORMATION:
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STATE:
USA
COUNTRY: USA
TTP: 22040-0747
PRADABLE F
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PM PC COMPATION
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                          NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                APPLICANT: NAGATA, SHIGEKAZU
APPLICANT: CO, MAN SUNG
APPLICANT: VASQUEZ, MAXIMILIANO
TITLE OF INVENTION: ANTI-FAS LIGAND ANTIBODY AND ASSAY
TITLE OF INVENTION: METHOD USING THE ANTI-FAS LIGAND ANTIBODY
                                                                                                                                                           APPLICANT: SHIRAKAWA, KAMON
APPLICANT: MATUSUE, TOMOKAZU
APPLICANT: WAGATA, SHIGEKAZU
APPLICANT: CO, MAN SUNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
TYPE: amino acid
STRANDEDNESS: single
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APPLICANT: CO, MAN SUNG
APPLICANT: VASQUEZ, MAXIMILIANO
TITLE OF INVENTION: MATI-FAS LIGAND ANTIBODY AND ASSAY
TITLE OF INVENTION: METHOD USING THE ANTI-FAS LIGAND ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
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STREET: PO BOX 747
CITY: FALLS CHURCH
STREET: PO BOX 747
CITY: FALLS CHURCH
                                          ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                              2 ASQDISNYLN 11
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MATUSUE, LUNC...
SHIGEKAZU
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NAGATA, SHIGEKAZU
                                          BIRCH, STEWART, KOLASCH AND BIRCH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92.6%; Score 50; DB 3;
100.0%; Pred. No. 0.0076;
Live 0; Mismatches 0
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NAME: MURRHY JR, GERALD M
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1110
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEPAX: (703) 205-8050
TELEPAX: (703) 205-8050
INFORMATION FOR SEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
LENGTH: 11 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 10
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: DO COUTO, FEE
APPLICANT: CERIANI, ROBE
APPLICANT: PETERSON, JEE
TITLE OF INVENTION: REC
TITLE OF INVENTION: MC3
TITLE OF INVENTION: METI
NUMBER OF SEQUENCES: 81
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE:
COUNTRY: USA
COUNTRY: USA
22040-0747
COLORDO E1
                                                                                                                                                                                                                          COUNTRY: USA
ZIP: 94304-1018
ZIP: 94304-1018
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: ISM PC compatible
COMPUTER: ISM PC compatible
SOFTWARE: Patentin Release #1.0, Version #1.30
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/649,100
                                  ATTORNEY/AGENT INFORMATION:
NAME: DYLLAN, TYLER
REGISTRATION NUMBER: 37,612
REFERENCE/DOCKET NUMBER: 27
TELECOMMUNICATION INFORMATION:
                                                                                                                                          CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/0:
FILING DATE: 14-SEP-1995
CLASSIFICATION: 424
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COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                           STREET: 755 Page
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
CLASSIFICATION: 435
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TELEPHONE: (415) 813-5600
TELEFAX: (415) 494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: MORRISON & FOERSTER STREET: 755 Page Mill Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DO COUTO, FERNANDO J.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RECOMBINANT PEPTIDES DERIVED FROM THE MC3 ANTI-BA46 ANTIBODY, METHODS OF USE THEREOF, AND METHODS OF HUMANIZING ANTIBODY PEPTIDES 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          92.6%; Score 50; DB 3;
100.0%; Pred. No. 0.0076;
tive 0; Mismatches 0
                                                                                                                                                                                     US/08/525,539A
                                                              27633-20001.21
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RESULT 13
US-08-851-362D-28
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US-08-851-362D-20
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                                                                      ; ORGANISM: human US-08-851-362D-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: FastSE
SEQ ID NO 20
LENGTH: 76
TYPE: PRT
ORGANISM: human
                                                                                                                   SOFTWARE: FAI
SEQ ID NO 28
LENGTH: 105
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Query Match
Best Local Similarity
Matches 10; Conserv
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Best Local Similarity 100.0%;
Matches 10; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -08-851-362D-20
                                                                                                                                                                   FILE REFERENCE: Cell 4.20
CURRENT APPLICATION NUMBER: US/08/851,362D
CURRENT FILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 49
                                                                                                                                                                                                                     TITLE OF INVENTION: Human Monoclonal Antibodies to Epidermal TITLE OF INVENTION: Growth Factor Receptor FILE REFERENCE: Cell 4.20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/08/851,362D CURRENT FILING DATE: 1997-05-05 NUMBER OF SEQ ID NOS: 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Human Monoclonal Antibodies to Epidermal TITLE OF INVENTION: Growth Factor Receptor FILE REFERENCE: Cell 4.20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Jakobovits, Aya APPLICANT: Yang, Xiao-Dong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                          APPLICANT:
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                                                                                                       TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 31 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match 92.6%;
Local Similarity 100.0%;
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6 ASQDISNYLN 15
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Jia, Xiao-Chi
                                                                                                                                                                                                                                                                                                        Jakobovits, Aya
Yang, Xiao-Dong
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Gallo, Michael
     Conservative
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                                                                                                                                                        for Windows Version 4.0
 92.6%; Score 50; DB 3; Length 105; 100.0%; Pred. No. 0.097; Live 0; Mismatches 0; Indels
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Pred. No.
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. 0.024;
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; ORGANISM: human
US-08-851-362D-38
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                                                                                                                                                                               SOFTWARE: Fai
SEQ ID NO 38
LENGTH: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-851-362D-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Human Monoclonal Antibodies to Epidermal TITLE OF INVENTION: Growth Factor Receptor FILE REFERENCE: Cell 4.20
CURRENT APPLICATION NUMBER: US/08/851,362D
CURRENT FILING DATE: 1997-05-05
NUMBER OF SEQ ID NOS: 49
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 34
LENGTH: 105
TYPE: PRT
ORGANIGM: human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Jakobov
APPLICANT: Yang, X
                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Jakobov APPLICANT: Yang, X
                                                                                                                                                                                                                                                                                                                                                                                                             Lequence 38, Application US/08851362D Patent No. 6235883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 34, Application US/08851362D Patent No. 6235883
                                                               Matches
                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/08/851,362D CURRENT FILING DATE: 1997-05-05 NUMBER OF SEO. ID NOS: 49
                                                                                                                                                                                                                                                                                  APPLICANT: Yang, Xiao-Dong
APPLICANT: Gallo, Michael
APPLICANT: Jia, Xiao-Chi
TITLE OF INVENTION: Human Monoclonal Antibodies to Epidermal
TITLE OF INVENTION: Growth Factor Receptor
FILE REFERENCE: Cell 4.20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Yang, Xiao-Dong
APPLICANT: Gallo, Michael
APPLICANT: Jia, Xiao-Chi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6 ASQDISNYLN 15
                                                               10; Conservative
თ
                             2 ASQDISNYLN 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                   FastSEQ for Windows Version 4.0
ASQDISNYLN 15
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                                                                                                                                                                                                                                                                                                                                                                                      Jakobovits, Aya
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                                                                             92.6%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92.6%; Score 50; DB 3; 100.0%; Pred. No. 0.097;
                                                               0; Mismatches
                                                                                Score 50; DB 3;
Pred. No. 0.097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 105;
                                                               Indels
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                                                               Gaps
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RESULT 16 US-08-480-434-74

Sequence 74, Application US/08480434 Patent No. 5811248

GENERAL INFORMATION:

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                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 74
Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.24
CURRENT APPLICATION NUMBER: US/08/480,434
FILLING DATE: 07-JUN-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 7606-053
                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: 74:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: LLL STREET: New York STATE: New York STATE: U.S.A.
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/053,451B
                                                                                                                                                                                                                                                                              APPLICANT: Chen, Francis W.
APPLICANT: Ditlow, Charles C.
APPLICANT: Calenoff, Emanuel
TITLE OF INVENTION: ATHEROSCLEROTIC PLAQUE SPECIFIC
TITLE OF INVENTION: ANTIGENS, ANTIBODIES THERETO, AND USES THEREOF
NUMBER OF SEQUENCES: 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: I
HYPOTHETICAL: N
ANTI-SENSE: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 854-3660
TELEPAX: (415) 854-3694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Charles TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 10036
                                                                                                                                                                              STATE: New York
                                                                                                                                                                                                                     STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                       ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                        74, Application US/08053451B
5. 5955584
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                                                                                                                                           10036
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                                                                                                                                                                                                                     E: Pennie & Edmonds
1155 Avenue of the Americas
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Charles C. Ditlow, et al.
VENTION: ATHEROSCLEROTIC PLAQUE SPECIFIC ANTIGENS.
VENTION: ANTIBODIES THERETO, AND USES THEREOF
                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pennie & Edmonds
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
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. 0.099;
ches 0; Indels
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                                               IELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 107 amin
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Patent No.
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APPLICANT: Chen, Francis W.
APPLICANT: Ditlow, Charles C.
APPLICANT: Calenoff, Emanuel
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                                                                                                                                               FILING DATE: 26-APR-1993
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Halluin, Albert P.
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 7606
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-854-3660
                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: LBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/053,451B
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LENGTH: 107 amino acids
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TELEPHONE: 415-854-3660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
                              TYPE: amino acid
STRANDEDNESS: uni
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: 415-854-3694
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               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      176, Application US/08053451B
5. 5955584
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 New York
                                                               107 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          92.6%; Score 50; DB 2; ilarity 100.0%; Pred. No. 0.099; Conservative 0; Mismatches
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                 unknown
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protein
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                                 unknown
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ANTIGENS, ANTIBODIES THERETO, AND USES THEREOF
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RESULT 20
US-07-942-245-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/065,059
FILING DATE:
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Bucca Ph.D., Daniel
REGISTRATION NUMBER: P-42,368
REFERENCE/DOCKET NUMBER: 50356-151
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 10; Conser
                                                                                                                                                                                                                                                                              Query Match
                                                                                       Sequence 10, Appli
Patent No. 5639641
                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No. 606884
                                           GENERAL INFORMATION:
APPLICANT: PEDERS
APPLICANT: SEARLE
                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: 703-684-1124
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS
LENGTH: 108 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: SEINO,
APPLICANT: KAYAGA
APPLICANT: YAGITA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                       Paren 92.6%;
Local Similarity 100.0%;
tes 10; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Alexandria
STATE: Virginia
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25 ASQDISNYLN 34
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                                                                                                         Application US/07942245
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAKATA, Motomi
            REES,
ROGUSKA,
GUILD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                          SEARLE,
                                                          PEDERSEN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    McDermott, Will & Emery
                                                                                                                                                                                                                                                                                                                                                                                                                                                     703-518-5100
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100.0%; Pred. No. 0.099;
... Mismatches 0;
            Anthony
Michael
                                           Jan T.
Stephen M.J
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                                                                                                                                                                                                                                                              Score 50; DB 3; Pred. No. 0.1;
                                                                                                                                                                                                                                                 Mismatches
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US-08-137-117D-37
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 37, Patent No. 5
                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: PACENTIAN Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/137,117D
FILING DATE: 20-DEC-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 109 amino acids TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                      APPLICANT: SALDANHA, JOSE
TITLE OF INVENTION: RESHAPED HUMAN ANTIBODY TO HUMAN
TITLE OF INVENTION: INTERLEUKIN-6 RECEPTOR
NUMBER OF SEQUENCES: 158
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 3,000 K Street, N.W., Suite 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 293-7060
TELEFAX: (202) 293-7860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: HP 9000//00 Workstation
                                               CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
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OPERATING SYSTEM: UNIX
SOPTWARE: In house
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 2100 Pens
CITY: Washington
                APPLICATION NUMBER: WO PCT/JP92/00544 FILING DATE: 24-APR-1992
                                                                                                                                                                                                                                                                           CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE: D.C
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STREET: 2100 Pensylvania Avenue, N.W.
                                                                                                                                                                                                                                          COUNTRY:
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FILING DATE: 09-SEP-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
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JONES, Steven
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Pred. No.
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SEQUENCE CHARACTERISTICS:
LENGTH: 127 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-137-117D-37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-436-717-37
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Best Local Similarity
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                                                                   APPLICATION UNMER: US/08/436,717
FILING DATE:
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/137,117
FILING DATE: 20-DEC-1993
APPLICATION NUMBER: WO PCT/JP92/00544
FILING DATE: 24-APR-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 4-32084
FILING DATE: 19-FEB-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
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APPLICANT:
APPLICANT:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Re-lease #1.0, Version #1.30
CURRENT APPLICATION DATA:
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REFERENCE/DOCKET NUMBER: 53
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
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ATTORNEY/AGENT INFORMATION:
NAME: WEGNER, Harold C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: JP 4
FILING DATE: 19-FEB-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: SALDANHA, JOSE
TITLE OF INVENTION: RESHAPED HUMAN ANTIBODY TO HUMAN
TITLE OF INVENTION: INTERLEUKIN-6 RECEPTOR
NUMBER OF SEQUENCES: 158
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CITY: Washington
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                  NAME: WEGNER, Harol
REGISTRATION NUMBER:
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3000 K Street, N.W., Suite 500
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JONES, Steven
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Harold C.
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                                                                                                                                                                                                             ; MOLECULE TYPE: peptide US-08-649-100-17
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Patent No. 6
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Best Local Similarity
Matches 10; Conserv
                                                                   Matches
                                                                                                        Query Match
Best Local Similarity
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INFORMATION FOR SEQ ID NO: 37:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (703) 205-800
TELEFAX: (703) 205-8050
INFORMATION FOR SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
ATTORNEY/AGENT INFORMATION:
NAME: MURPHY JR, GERALD M
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1110
TELECOMMUNICATION INFORMATION:
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STATE: V..
STATE: V..
COUNTRY: USA
COUNTRY: V..
COUNTRY: USA
COU
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 41
CORRESPONDENCE ADDRESS:
ADDRESSE: BIRCH, STEWART, KOLASCH AND BIRCH
STREET: PO BOX 747
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APPLICANT: MATUSUE, TOMOKAZU
APPLICANT: NAGATA, SHIGEKAZU
APPLICANT: CO, MAN SUNG
APPLICANT: CO, MAN SUNG
APPLICANT: VASQUEZ, MAXIMILIANO
APPLICANT: VASQUEZ, MAXIMILIANO
TITLE OF INVENTION: METHOD USING THE ANTI-FAS LIGAND ANTIBODY
TITLE OF INVENTION: METHOD USING THE ANTI-FAS LIGAND ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: protein
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
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CITY: FALLS CHURCH
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                                                                                                                                                                                                                                                                                                                      LENGTH: 127 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
TOPOLOGY: linear
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                                                                   10; Conservative
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linear
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100.0%; Pred. No.
ative 0; Mismatc
                                                               92.6%; Score 50;
100.0%; Pred. No.
tive 0; Mismatc
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                                                                                                        DB 3;
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0.12;
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                                                                                                                                          Length 127
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ASQDISNYLN 54

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RESULT 25
US-08-236-520-2
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Best Local Similarity 100.0%;
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/08236520 Patent No. 5591629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
CLASSIFICATION: 435
ATTORNEY, AGENT INFORMATION:
NAME: MURPHY JR, GERALD M
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 1110
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 127 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (703) 205-80
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APPLICANT:
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APPLICANT:
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MEDIUM TYPE: Floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/649,100
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ADDRESSEE: BIRCH, ST
STREET: PO BOX 747
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TITLE OF INVENTION: ANTI-FAS LIGAND ANTIBODY AND ASSAY
TITLE OF INVENTION: METHOD USING THE ANTI-FAS LIGAND ANTIBODY
                                                                                                                                                  NUMBER OF SEQUENCES: 1.
                                                                                                                                                                                                                               TITLE OF INVENTION:
STREET: Two STREET: Two STREET: Two STREET: Two STREET: Two Street Stree
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ZIP: 22040-0747
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                                                                                                             ADDRESSEE: Hamilton, Brook, Smithy & Reynolds, P.C.
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Massachusetts
                                                                             Two Militia Drive
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                                                                                                                                                                                                                                                                                                            Miller, David J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (703) 205-8050
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                                                                                                                                                                                                                                                                                                                                            Rodriguez, Moses
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                                                                                                                                                                                                                               MONOCLONAL ANTIBODIES WHICH PROMOTE CENTRAL NERVOUS SYSTEM REMYELINATION
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; Pred. No. 0.1
0; Mismatches
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PCT-US95-05262-2
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Best Local Similarity 100.0%;
Matches 10; Conservative (
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APPLICANT: Mayo F
                              TELEPHONE: 617-861-5240
TELEPAX: 617-861-9540
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 131 amino acids
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: U.S. 0
PILING DATE: April 29, 199
PILING DATE: April 29, 199
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 27,22
                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
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NAME: Granahan, Patricia
REGISTRATION NUMBER: 27,227
REFERENCE/DOCKET NUMBER: MMV92-01
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                               REFERENCE/DOCKET NUMBER: MM
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
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CORRESPONDENCE ADDRESS:
TYPE: ami
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CITY: Lexington
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                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: PCT/US95/05262 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: FILING DATE: 29-APPLICATION: 42
                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Hamilton, Brook
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                    amino acid
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                                   131 amino acids
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                                                                                                                                                                                                                                                                                                                                                                         Release #1.0, Version #1.25
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                                                                                                                                                          MMV92-01 PCT
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US-08-403-853-18
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Patent No. 5
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                                                            Matches
                                                                                        Query Match
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APPLICATION NUMBER: US/08/403,85
FILING DATE: 30-MAY-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
PILING DATE: 24-SEP-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: AU PL 4973
FILING DATE: 25-SEP-1992
                                                                                                                                                                                              TELEX: 904136
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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APPLICANT:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                        NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 167
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
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ATTORNEY/AGENT INFORMATION:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
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ZIP: 200
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Local Similarity 100.0%; P
les 10; Conservative 0;
                                                                                                                                                 TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
                                                                          Local Similarity
                                                                                                                                                                                                                                               TELEFAX:
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                                                                                                                                                                                 LENGTH:
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ASQDISNYLN 192
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                                                                                                                                                                                   273 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B: Foley & Lardner
3000 K Street, N.W., Suite 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KORRT, Alex A.
IRVING, Robert A.
ATWELL, John L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MALBY, Robyn L.
POWER, Barbara E.
                                                            Conservative
                                                                                                                                                                                                                                            (202) 672-5399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COLMAN, Peter M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LAH, Maria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HUDSON,
                                                                                                                                     protein
                                                    92.6%; Sur.
, 100.0%; Pr/
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                                                                          Score 50; DB 2; ; Pred. No. 0.28;
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                                                                                                                                                                                                                                                                                          16786/189/CHAC
                                                            Mismatches
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                                                                        0.28;
                                                          0; Indels
                                                                                       Length 273;
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GENERAL INFORMATION:
APPLICANT: Jakobovits, Aya
APPLICANT: Yang, Xiao-Dong
APPLICANT: Gallo, Michael
APPLICANT: Jia, Xiao-Chi
TITLE OF INVENTION: Human Monoclonal Antibodies to I
TITLE OF INVENTION: Growth Factor Receptor
FILE REFERENCE: Cell 4.20
CURRENT APPLICATION NUMBER: US/08/851,362D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 13, Application US/US40//0.
Patent No. 6217866
GENERAL INFORMATION:
APPLICANT: Schlessinger, Joseph
APPLICANT: Givol, David
                                                                                                                                                                              Sequence 24, Application US/08851362D Patent No. 6235883
                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
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MEDIUM TYPE: Floppy disk

COMPUTER: Macintosh

OPERATING SYSTEM: System 7

SOFTWARE: WORD 5.0 (Patent
CURRENT APPLICATION DATA:

APPLICATION UMBER: US/08/

FILING DATE: 07-UN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 424

PRIOR APPLICATION DATA:
APPLICATION UNUMBER: US 08/
FILING DATE: 29-JUN-1993
ATTORNEY/AGENT INFORMATION:
NAME: COOMERS DESERTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (215) 454-3808
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 112 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Cheadle, Charles, Applicant: South, Victoria J. Applicant: South, Victoria J. Applicant: South, Victoria J. TITLE OF INVENTION: Monoclonal Antibodies Specific to Human TITLE OF INVENTION: Epidermal Growth Factor Receptor and Therapeutic Methods TITLE OF INVENTION: Employing Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: AO TELECOMMUNICATION INFORMATION: TELEPHONE: (215) 454-3817 TELEPAX: (215) 454-3808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Rhone-Poulenc Rorer Inc.
STREET: 500 Arcola Road, 3C43
CITY: Collegeville
                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Goodman, Rosanne REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: U
ZIP: 19426
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Cheadle, Christopher
South, Victoria J.
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Bellot, Francoise
Kris, Richard
                                                                                                                                                                                                                                                                                                                                                                            Conservative
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Pred. No. 0.16;
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RESULT 31
US-08-458-516-9
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NUMBER OF SEQ ID NOS: 49
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                Query Match 87.0%;
Best Local Similarity 90.0%;
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/458,516
FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/059,159
FILING DATE: 03-MAY-1993
ATTORNEY/AGENT INFORMATION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,223
REFERENCE/DOCKET NUMBER: 11823-37-3
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                    TELEFAX: 415-326-2422
INFORMATION FOR SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: human
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TYPE: PRT
                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: ISM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY: USA
ZIP: 94105
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                               TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Co, Man Sung
APPLICANT: Tso, J. Yun
TITLE OF INVENTION: Hun
TITLE OF INVENTION: GPJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                     LENGTH:
TYPE: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                   TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: William M. Smith
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                  <u>ა</u>
                                                                                   2 ASQDISNYLN 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                , Application US/08458516 5777085
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                                                                  ASQDINNYLN 34
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                                                                                                                                                                                                                                                                                                                                                                      11823-37-3
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Pred. No. 0.33;
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Pred. No. 0.
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                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/08652558
Patent No. 5861155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 9, Application US/08458516 Patent No. 5777085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/059
PILING DATE: 03-MAY-1993
ATTORNEY/AGENT INFORMATION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,223
                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: LIN, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 415-326-2422 INFORMATION FOR SEQ ID NO: 9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Co, Man S
APPLICANT: T80, J. Y
TITLE OF INVENTION:
TITLE OF INVENTION:
             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette, 1.4 Mb storage
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.1
                                                                                                                                                                                   APPLICANT: LIN, AUGUSTINE YEE-THARN
TITLE OF INVENTION: HUMANIZED ANTIBODIES AND USES
TITLE OF INVENTION: THEREOF
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: BANNER & WITCOFF
STREET: 75 STATE STREET, 23RD FLOOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of COMPUTER: IBM PC com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEB: William M. Smith
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE:
CURRENT APPLICATION DATA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity hes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
TOPOLOGY: linear
                                                                                                                             STATE: MASSACHUSETTS
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: San Francisco
                                                                                                                                                                         CITY: BOSTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
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90.0%;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
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; MOLECULE TYPE: protein US-08-652-558-35
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Patent No. 5861155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: LIN, AUGUSTINE YEE-THARN
TITLE OF INVENTION: HUMANIZED ANTIBODIES AND USES
TITLE OF INVENTION: THEREOF
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: BANNER & WITCOFF
STREET: 75 STATE STREET, 23RD FLOOR
                                                                                                                                                                  APPLICATION NUMBER: US/08/652,55.
FILING DATE: JUNE 6, 1996
PRIOR APPLICATION DATA:
APPLICATION UNMBER: PCT/IB94/003
FILING DATE: NOVEMBER 21, 1994
ATTORNEY/AGENT INFORMATION:
NAME: YANKWICH, LEON R.
REGISTRATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: 95,497-
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: NOVEMBER 21, 1994
ATTORNEY/AGENT INFORMATION:
NAME: YANKHICH, LEON R.
REGISTRATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: 95,497-
TELECOMMUNICATION INFORMATION:
TELECHONE: 617-345-9100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 617-345-9111 INFORMATION FOR SEQ ID NO: 2:
                                                                                 TELEFAX: 617-345-9111
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acid
                                                                                                                                                                                                                                                                                                                                             SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette, 1.4 Mb storage
COMPUTER: 1EM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: ,USTON
                                              STRANDEDNESS:
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                                                               TYPE: amino acid
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                                  TOPOLOGY:
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                                                                                                                                                     TELEPHONE:
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Pred. No. 0.34;
0; Mismatches
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CURRENT FILING DATE: 1999-03-02
EARLIER APPLICATION NUMBER: 00/000,000
EARLIER FILING DATE: 1998-11-24
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Lundquist, Tomas
TITLE OF INVENTION: Sequence Listing
Patent No. 6150792
FILE REFERENCE: 3526/00000
                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No. 5821337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
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Best Local Similarity
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APPLICANT: Paul J. Carter
APPLICANT: Leonard G. Presta
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TYPE: PRT
ORGANISM: Artificial Sequence
PEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence:humanized OTHER INFORMATION: monoclonal antibody
                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
                                                        CLASSIFICATION: 530
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: PCT/US92/05126
                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Immunoglobulin Variants NUMBER OF SEQUENCES: 48
CORRESPONDENCE ADDRESS:
                               PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                  STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
                                                                                                              APPLICATION NUMBER: US/07/934,373C FILING DATE: 21-Aug-1992
APPLICATION NUMBER: FILING DATE: 14-JU
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                                                                                                                                                                                                                                                                    COUNTRY:
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                                                 15-JUN-1992
 14-JUN-1991
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90.9%;
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90.9%;
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Pred. No.
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Pred. No. 0
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US-08-437-642B-47
US-08-437-642B-47
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APPLICANT: Paul J
                                                     TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 109 amino acid
                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/437,
FILLING DATE: 09-May-1995
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                    APPLICATION NUMBER: 08/146206
FILING DATE: 17-NOV-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US92/05126
FILING DATE: 15-JUN-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Leonard G. Presta
TITLE OF INVENTION: Immunoglobulin Variants
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
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PRIOR APPLICATION NUMBER: 08/146206
                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/934373
FILING DATE: 21-AUG-1992
                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: 650/225-1994
                                                                                                                                                                                      FILING DATE: 14-JUN-1991
ATTORNEY/AGENT INFORMATION:
                     TYPE: Amino Acid
                                                                                                                                       NAME: Lee, Wendy M.
REGISTRATION NUMBER: 40,378
REFERENCE/DOCKET NUMBER: P0709P2C1
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Amino Acid
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650/952-9881
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14-JUN-1991
                                                                            ID NO: 47:
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90.0%;
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Pred. No. 0.34;
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US-08-458-516-5
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                                                                                                                                    US-08-348-548-4
                                                                                                    Sequence 4, Application US/08348548 Patent No. 6258529
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Best Local Similarity
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APPLICATION NUMBER: US 08/
FILING DATE: 03-MAY-1993
ATTORNEY/AGENT INFORMATION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,22
                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO:
                          APPLICANT: Berdoz, J
APPLICANT: Kraehenbu
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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TITLE OF INVENTION:
TITLE OF INVENTION:
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CORRESPONDENCE ADDRESS
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STATE: California
                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
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5, 5777085
                                                                                        INFORMATION:
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One Market Plaza, Steuart Tower, Suite 2000
MATACA.

METADZA, JOSE

REPUBLIA JOSE

Kraehenbuhl, Jean Pierre

Kraehenbuhl, Jean Pierre

KRARRANGED GENOMIC

VENTION: PCR AMPLIFICATION OF REARRANGED GENOMIC

SVENTION: VARIABLE REGIONS OF IMMUNOGLOBULIN GENES
                                                                                                                                                                                                                                                                                                                                                                               127 amino acids
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90.0%;
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90.0%;
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Pred. No. 0.41
1; Mismatches
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Pred. No. 0
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0.34;
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CORRESPONDENCE ADDRESS:

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PCT-US95-15716-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4, Application PC/TUS9515716
GENERAL INFORMATION:
APPLICANT: Berdoz, Jose
APPLICANT: Kraehenbuhl, Jean Pierz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 87.0%;
Best Local Similarity 90.0%;
Matches 9; Conservative
                                                                                                                                                                                                COUNTRY: USA
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30B
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/15716
FILING DATB:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/348,548
APPLICATION NUMBER: US 08/348,548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEX: 200154
INFORMATION FOR SEQ ID NO: 4:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PatentIn Release #1.0, Version #1.30B
SOFTWARE: PatentIn Release #1.0, Version #1.30B
CURRENT APPLICATION DATA:
APPLICATION NAMEER: US/08/348,548
FILING DATE: 01-DEC-1994
ATTORNEY/AGENT IMPORMATION:
NAME OF THE OWNER PROPERTY AND PARTY AND PARTY PARTY AND PAR
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APPLICANT: Kraehenbuhl, Jean Pierre
TITLE OF INVENTION: PCR AMPLIFICATION OF REARRANGED GENOMIC
TITLE OF INVENTION: VARIABLE REGIONS OF IMMUNOGLOBULIN GENES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS
                                                               FILING DATE: 01-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
REFERENCE/DOCKET NUMBER: 06
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (617) 542-5070
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STREET: 225 Franklin Street, Suite 3100
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ZIP: 02110-2804
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STREET: 225 Franklin Street, Suite 3100
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ER: 30,162
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                                                                                                                               US-08-425-763-1
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Matches
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Best Local Similarity
Matches 9; Conserv
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Patent No. 5641870
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Best Local Similarity
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MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: patin (Genentech)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/425,763

FILING DATE: 20-APR-1995

CLASSIFICATION: 424

CLASSIFICATION: 424
                                                                                                                                                                       TELEFAX: 415/952-9881
TELEX: 910/371-7168
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 214 amino acids
                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Lee, Wendy M.
REGISTRATION NUMBER: 00,000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 4:
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LENGTH: 127 amino acids
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MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Rinderknecht, Ernst H. APPLICANT: Zapata, Gerardo A. TITLE OF INVENTION: ANTIBODY PURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS: not
STRANDEDNESS: NOT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
                                                                                                                                              TOPOLOGY:
                                                                                                                                                             TYPE: amino acid
                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER:
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TELEFAX: (617) 542-5070
TELEX: 200154
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25 ASQDINNYLN 34
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                          ASQDISNYLN 11
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                                                                             87.0%;
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90.0%;
                                                                             Score 47; DB 1;
Pred. No. 0.74;
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Pred. No. 0
                                                                 Mismatches
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Search completed: December 17, 2004, 18:32:09 Job time: 7.67416 secs

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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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seq length: 2000000000
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185.159 Million cell updates/sec
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/ Cgm2 6/ptodata/2/pubpaa/US09 PUBCOMB.pep:*
/ cgm2 6/ptodata/2/pubpaa/US09C PUBCOMB.pep:*
/ cgm2 6/ptodata/2/pubpaa/US09C PUBCOMB.pep:*
/ cgm2 6/ptodata/2/pubpaa/US09 NEW PUB.pep:*
/ cgm2 6/ptodata/2/pubpaa/US10B PUBCOMB.pep:*
/ cgm2 6/ptodata/2/pubpaa/US10B PUBCOMB.pep:*
/ cgm2 6/ptodata/2/pubpaa/US10D PUBCOMB.pep:*
/ cgm2 6/ptodata/2/pubpaa/US10D NEW PUB.pep:*
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6/ptodata/2/pubpaa/US09A PUBCOMB.pep:*
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_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

100.0 103 16 100.0 103 16 100.0 103 16 100.0 107 10 100.0 107 14 100.0 107 16 100.0 107 16	Result No. 1 2	Score 54 54	Query Match Length DB 100.0 11 9 100.0 11 14 100.0 103 16	length	DB .	US-09-056-160B-4 US-10-234-671-4 US-10-379-392-100	Description Sequence 4, Sequence 4 Sequence 1
3 54 100.0 103 16 US-10-379-392-120 4 54 100.0 103 16 US-10-379-392-121 5 54 100.0 103 16 US-10-379-392-123 6 54 100.0 103 16 US-10-379-392-123 7 54 100.0 103 16 US-10-379-392-131 8 100.0 107 9 US-09-056-160B-15 10 54 100.0 107 9 US-09-056-160B-15 11 54 100.0 107 14 US-10-234-671-13 11 54 100.0 107 16 US-10-234-671-15 12 54 100.0 107 16 US-10-234-671-15 12 54 100.0 107 16 US-10-723-434-1 100.0 107 16 US-10-723-434-2	21	.55 44	100.0	11	9 14	US-09-056-160B-4 US-10-234-671-4	
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100.0 103 16 100.0 107 9 100.0 107 9 100.0 107 14 100.0 107 16 100.0 107 16	6	54	100.0	103	16	US-10-379-392-129	
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100.0 107 9 100.0 107 14 100.0 107 14 100.0 107 16 100.0 107 16	80	54	100.0	107	9	US-09-056-160B-13	
100.0 107 14 100.0 107 14 100.0 107 16 100.0 107 16	ø	54	100.0	107	9	US-09-056-160B-15	
100.0 107 14 100.0 107 16 100.0 107 16	10	54	100.0	107	14	US-10-234-671-13	
100.0 107 16 100.0 107 16	11	54	100.0	107	14	US-10-234-671-15	
100.0 107 16	12	54	100.0	107	16	US-10-723-434-1	
	13	54	100.0	107	16	US-10-723-434-2	

## ALIGNMENTS

US-09-056-160B-4

US-09-056-160B-4

Sequence 4, Application US/09056160B

Patent NO. US2002032315A1

GENERAL INFORMATION:

APPLICANT: Baca, Manuel

APPLICANT: Wells, James A.

APPLICANT: Presta, Leonard G.

APPLICANT: Chen, Yvonne M.

TITLE OF INVENTION: ANTI-VEGF ANTIBODIES

NUMBER OF SEQUENCES: 131

CORRESPONDENCE ADDRESS:

ADDRESSEE: Genentech, Inc.

STREET: 1 DNA Way

CITY: South San Francisco

STATE: California

COUNTRY: USA

ZIP: 94080

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: HABACH FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: HABACH FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: HABACH FORM:

APPLICATION NUMBER: US/09/056,160B

FILING DATE: 06-APT-1998

CLASSIFICATION DATA:

APPLICATION NUMBER: 60/054,856

FILING DATE: 06-AUG-1997

ATTORNEY/AGENT INFORMATION:

NAME: HABAK, Janet E.

REFERENCE/DOCKET NUMBER: p1093R2

TELECOMMUNICATION INFORMATION:

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US-10-234-671-4
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                                                                                                                     US-10-234-671-4
                                       Matches
                                                      Query Match
Best Local Similarity
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                    REGISTRATION NUMBER: 44,637
REFERENCE/DOCKET NUMBER: P1093R2C1
TELLECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
TELEPHONE: 650/225-9881
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/10/234,671
PILING DATE: 03-Sep-2002
CLASSIFICATION: <UNKnown>
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 09/056160
FILING DATE: 06-APR-1997
APPLICATION NUMBER: 60/126446
FILING DATE: 07-APR-1997
APPLICATION NUMBER: 60/054856
FILING DATE: 06-AUG-1997
APPLICATION NUMBER: 60/054856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: Cui, Steven X.
PECIGERATION NUMBER: 44.627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 11 amino acids TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'Match 100.0%; Score 54; DB 9; Length 11; Local Similarity 100.0%; Pred. No. 0.012; les 11; Conservative 0; Mismatches 0; Indels
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
                                                                                                                                        SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: ANTI-VEGF ANTIBODIES NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                     11;
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1 SASQDISNYLN 11
                                                                                                                                                         TYPE: Amino Acid
TOPOLOGY: Linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 1 DNA Way
CITY: South San Francisco
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                                                                                                                                                                                                   LENGTH: 11 amino acids
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                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  650/225-1896
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Lowman, Henry B.
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                                                    100.0%;
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                                   Score 54; DB 14; Length 11; Pred. No. 0.012; Indels
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; OTHER INFORMATION: Synthetic US-10-379-392-121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Marshall, Shannon Alicia
APPLICANT: Dahiyat, Bassil I.
TITLE OF INVENTION: ANTIBODY OPTIMIZATION
FILE REFERENCE: A-71386-3 463077-236
CURRENT APPLICATION NUMBER: US/10/379,392
CURRENT FILING DATE: 2003-03
PRIOR APPLICATION NUMBER: US 60/360,843
PRIOR APPLICATION NUMBER: US 60/360,843
PRIOR APPLICATION NUMBER: US 60/384,197
PRIOR FILING DATE: 2002-03-01
PRIOR FILING DATE: 2002-05-29
NUMBER OF SEQ ID NOS: 184
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US-10-379-392-100
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                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 60/384,197
PRIOR FILING DATE: 2002-05-29
NUMBER OF SEQ ID NOS: 184
SOFTWARE: PATENTIN VERSION 3.2
SEQ ID NO 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Lazar, Gregory Alan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn version 3.2 SEQ ID NO 100
                                                      Matches
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                                                                           Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/10/379,392 CURRENT FILING DATE: 2003-03-03
                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Desjarlais, John Rudolf
APPLICANT: Marshall, Shannon Alicia
APPLICANT: Dahiyat, Bassil I.
TITLE OF INVENTION: ANTIBODY OPTIMIZATION
FILE REFERENCE: A-71386-3 463077-236
                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/360,843 PRIOR FILING DATE: 2002-03-01
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                                                                                                                                                                    LENGTH: 103
TYPE: PRT
ORGANISM: Artificial sequence
FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
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1 SASQDISNYLN 11
                                                          11; Conservative
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SASQDISNYLN 11
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o. US20040110226A1
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100.0%; Pr
                                                                           100.0%; Score 54; DB 16; Length 103; 100.0%; Pred. No. 0.12;
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                                                          0;
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Pred. No. 0.12;
                                                          Mismatches
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SASQDISNYLN 34

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APPLICANT: Marshall, Shannon Alicia
APPLICANT: Dahiyat, Bassil I.
TITLE OF INUMINATION
FILE REFERENCE: A-71386-3 463077-236
CURRENT FILING DATE: 2003-03-03
PRIOR APPLICATION NUMBER: US 60/360,843
PRIOR FILING DATE: 2002-03-01
PRIOR FILING DATE: 2002-03-01
PRIOR PILING DATE: 2002-05-29
NUMBER OF SEQ ID NOS: 184
SOFTWARE: Patentin version 3.2
SEQ ID NO 129
LENGTH: 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-379-392-123
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TITLE OF INVENTION: ANTIBODY OPTIMIZATION
FILE REFERENCE: A-71386-3 463077-236
CURRENT APPLICATION NUMBER: US/10/379,392
CURRENT FILING DATE: 2003-03-03
PRIOR APPLICATION NUMBER: US 60/360,843
PRIOR APPLICATION NUMBER: US 60/384,197
PRIOR APPLICATION NUMBER: US 60/384,197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR FILING DATE: 2002-05-29
NUMBER OF SEQ ID NOS: 184
SOFTWARE: PatentIn version 3.2
SEQ ID NO 123
LENGTH: 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 129, Appublication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -10-379-392-129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Lazar, Gregory Alan
APPLICANT: Desjarlais, John Rudolf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Marshall, Shannon Alicia
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APPLICANT: Desjarlais, John Rudolf
FEATURE:
NAME/KEY: MISC_FEATURE
LOCATION: (43)...(43)
OTHER INFORMATION: Xaa at position 43
OTHER INFORMATION: Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE: OTHER INFORMATION: Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Artificial sequence
                                                                                                           OTHER INFORMATION: Xaa at
                                                                                                                                 NAME/KEY: MISC_FEATURE LOCATION: (36)...(36)
                                                                                                                                                                                           OTHER INFORMATION: Synthetic
                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                ORGANISM: Artificial sequence
                                                                                                                                                                                                               FEATURE:
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o. US20040110226A1
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                                                                                                             position 36
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                                                                                                                                                                                         US-09-056-160B-13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn version 3.2 SEQ ID NO 131
                                                                                                                                         Patent No. US20020032315A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 11; Conserv
                                                                                                                                                                        Sequence 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: US 60/384,197
PRIOR FILING DATE: 2002-05-29
NUMBER OF SEQ ID NOS: 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: ANTIBODY OPTIMIZATION FILE REFERENCE: A-71386-3 463077-236 CURRENT APPLICATION NUMBER: US/10/379,392 CURRENT FILING DATE: 2003-03-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 60/360,843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:

NAME/KEY: MISC_FEATURE

*OCATION: (98)...(98)
                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
OTHER INFORMATION: Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PEATURE: MISC_FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: Xaa at position 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Xaa at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: MISC FEATURE LOCATION: (89)..(89)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Xaa at position 87 can be Phe, Tyr or Met
                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 103
             TITLE OF INVENTION: ANTI-VEGF ANTIBODIES NUMBER OF SEQUENCES: 131
CORRESPONDENCE ADDRESS:
                                                        APPLICANT: Presta, Leonard G.
APPLICANT: Lowman, Henry B.
APPLICANT: Chen, Yvonne M.
                                                                                           APPLICANT: Baca, Manuel APPLICANT: Wells, James APPLICANT: Presta, Leon
                                                                                                                                                                                                                                                      24 SASQDISNYLN 34
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                                                                                                                                                                        Application US/09056160B
                                                                                                         Wells, James A.
                                                                                                                                                                                                                                                                                                                     Conservative
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Genentech, Inc.
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                                                                                                                                                                                                                                                                                                                                 100.0%; Score 54; DB 16; Length 103; 100.0%; Pred. No. 0.12;
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                                                                                                                                                                                                                                                                                                                     Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              can be Met or Gln
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US-09-056-160B-15
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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/09/056,160B
FILING DATE: 06-Apr-1998
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/054,856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: HASAK, Janet E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No. US20020032315A1 GENERAL INFORMATION:
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PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION UMBER: 60/054,856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: Hasak, Janet E.
REGISTRATION NUMBER: 28,616
REFERENCE/DOCKET NUMBER: P1093R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/52-9881
TRECEPAX: 650/52-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 13:
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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
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APPLICANT:
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LENGTH: 107 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/056,160B
FILING DATE: 06-Apr-1998
                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: ANTI-VEGF ANTIBODIES NUMBER OF SEQUENCES: 131
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CITY: South San Francisco
STATE: California
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STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
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Lowman, Henry B.
Chen, Yvonne M.
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LENGTH: 107 amino acids

TYPE: Amino Acid

TOPOLOGY: Linear

SEQUENCE DESCRIPTION: SEQ ID NO: 13:
US-10-234-671-13
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Publication No.
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Query Match
Best Local Similarity
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Best Local Similarity
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APPLICANT: Baca, Manuel
                                                                                                                                                                          TELEFAX: 650/952-9881 INFORMATION FOR SEQ ID NO: 13:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 28,616
REFERENCE/DOCKET NUMBER: 1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1896
                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:

APPLICATION NUMBER: 09/056160

FILING DATE: 06-APPL-1998

APPLICATION NUMBER: 60/126446

FILING DATE: 07-APR-1997

APPLICATION NUMBER: 60/054856

FILING DATE: 06-AUG-1997

ATTORNEY/ACENT INFORMATION:

NAME: Cui, Steven X.

REGERENCE/DOCKET NUMBER: 44,637

REFERENCE/DOCKET NUMBER: P1093R2C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Presta, Leonard G.
Lowman, Henry B.
Chen, Yvonne M.
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
NUMBER OF SEQUENCES: 131
CORRESPONDENCE ADDRESS:
ADDRESSE: Genentech, Inc.
STREET: 1 DNA Way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: Amino acids
TYPO: Amino Acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 94080

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

COMPUTER: PC COMPATIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTMARE: Winpatin (Genentech)

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION: TELEPHONE: 650/225-8674
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/10/234,671 FILING DATE: 03-Sep-2002 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: South San
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  100.0%;
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R: P1093R2
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  Score 54; DB 14; Length 107; Pred. No. 0.12;
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TOPOLOGY: Linear;
SEQUENCE DESCRIPTION: SEQ ID NO: 15:
US-10-234-671-15
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US-10-234-671-15
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                                                                                     RESULT 12
US-10-723-434-1
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Sequence 1, Application US/10723434
Publication No. US20040133357A1
GENERAL INFORMATION:
APPLICANT: Zhong, Pingyu
APPLICANT: Luo, Peizhi
                                                                                                                                                                                                                       Query Match 100
Best Local Similarity 100
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 15, Applicati
Publication No. US2003
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 107 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/10/234,671
FILING DATE: 03-Sep-2002
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/056160
FILING DATE: 06-APR-1998
APPLICATION NUMBER: 69/126446
FILING DATE: 07-APR-1997
APPLICATION NUMBER: 60/054856
FILING DATE: 06-AUG-1997
APPLICATION NUMBER: 60/054856
                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Cui, Steven X.
REGISTRATION NUMBER: 44,637
REFERENCE/DOCKET NUMBER: P1093R2C1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-8674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Baca, Manuel
Wells, James A.
Presta, Leonard G.
Lowman, Henry B.
Chen, Yvonne M.
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
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                                                                                                                                                          SASQDISNYLN 34
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No. US20030190317A1
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US-10-723-434-2
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US-10-723-434-1
                                                                                                                                          US-10-723-434-2
                                                                                                                                                                                                                                            SEQ ID NO 2
                                                                                                                                                                                                            TYPE: PRT
                                                                                                                                                         FEATURE:
OTHER INFORMATION: VL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
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     24 SASQDISNYLN 34
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Heieh, Mark
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Sequence 2, Application US/10723434
Publication No. US20040133357A1
GENERAL INFORMATION:
APPLICANT: Zhong, Pingyu
APPLICANT: Luo, Peizhi
APPLICANT: Wang, Kevin C.
APPLICANT: Heich, Mark
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                                                     Query Match 100
Best Local Similarity 100
Matches 11; Conservative
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Best Local Similarity 100
Matches 11; Conservative
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709-501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR FILING DATE: 2002-05-20
PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
SOFTMARE: Patentin version 3.1
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PRIOR FILING DATE: 2001-04-17
PRIOR PELICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR APPLICATION NUMBER: US 10/443,134
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CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
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ORGANISM: Artificial Sequence
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ITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
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1 SASQDISNYLN 11
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                                                                         Score 54; DB 1:
Pred. No. 0.12;
                                                        Mismatches
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APPLICANT: Zhong, Pingyu
APPLICANT: Luo, Peizhi
APPLICANT: Mang, Kevin C.
APPLICANT: Hsleh, Mark
APPLICANT: Li, Yan
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US-10-723-434-4
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PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
SOFTWARE: PatentIn version 3.1
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SEQ ID NO 3
LENGTH: 107
TYPE: PRT
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Publication No. US20040133357A1
GENERAL INFORMATION:
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APPLICANT: Li, Yan
APPLICANT: Li, Yan
APPLICANT: Li, Yan
TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/125,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR FILING DATE: 2003-05-20
PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156-20
NUMBER OF SEQ ID NOS: 156-20
                                                                                                               SEQ ID NO 4
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APPLICANT: Luo, Peizhi
APPLICANT: Wang, Kevin
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
CURRENT FILING DATE: 2003-11-26
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                                                                  LENGTH: 107
TYPE: PRT
                                       ORGANISM: Artificial Sequence
OTHER INFORMATION: VL
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No. US20040133357A1
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Hsieh, Mark
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; FEATURE:
; OTHER INFORMATION: VL
US-10-723-434-5
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US-10-723-434-6
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US-10-723-434-5
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SEQ ID NO 5
LENGTH: 107
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
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PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
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CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
                                                                           APPLICANT: Li, Yan
TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR FILING DATE: 2001-04-17
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APPLICANT: Luo, Peizhi
APPLICANT: Wang, Kevin C.
APPLICANT: Hsieh, Mark
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
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                                      PRIOR APPLICATION NUMBER: US 10/125,687 PRIOR FILING DATE: 2002-04-17
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ORGANISM: Artificial Sequence
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APPLICATION NUMBER: US 10/153,176 FILING DATE: 2002-05-20
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Hsieh, Mark
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Pred. No. 0.
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Sequence 8, Application US/10723434
Publication No. US2004013357A1
GENERAL INFORMATION:
APPLICANT: Zhong, Pingyu
APPLICANT: Luo, Peizhi
APPLICANT: Wang, Kevin C.
APPLICANT: Hsieh, Mark
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US-10-723-434-7
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US-10-723-434-8
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SEQ ID NO 7
LENGTH: 107
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Publication No. US20040133357A1
GENERAL INFORMATION:
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NUMBER OF SEQ ID NOS: 156
SOFTWARE: PatentIn version 3.1
SEQ ID NO 6
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Best Local Similarity
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-10-723-434-6
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
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PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR ETILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/443,134
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APPLICANT: Luo, Peizhi
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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ORGANISM: Artificial Sequence
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OTHER INFORMATION: VL
NPPLICANT: Li, Yan
TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
TILE REFERENCE: 26050-709.501
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Hsieh, Mark
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US-10-723-434-9
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US-10-723-434-9
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PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR FILING DATE: 2003-05-20
NUMBER OF SEQ ID NOS: 156
                                                                            Query Match
Best Local S
Matches 11
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 9
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Best Local Similarity
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LENGTH: 107
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
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PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR APPLICATION NUMBER: US 10/443,134
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CURRENT FILING DATE: 2003-11-26
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APPLICANT: Luo, Peizhi
APPLICANT: Wang, Kevin C.
APPLICANT: Hsieh, Mark
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OTHER INFORMATION: VL
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SASQDISNYLN 34
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                                                                          100.0%; Score 54; DB 1
100.0%; Pred. No. 0.12;
ative 0; Mismatches
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100.0%; Pred. No. 0.12;
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RESULT 21 US-10-723-434-10

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RESULT 22
US-10-723-434-11
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US-10-723-434-11
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US-10-723-434-10
Query Match 100.0%; Score 54; DI Best Local Similarity 100.0%; Pred. No. 0.: Matches 11; Conservative 0; Mismatches
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NUMBER OF SEQ ID NOS: 156
SOFTWARE: PatentIn version 3.1
SEQ ID NO 11
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Best Local
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APPLICANT: Li, Yan

APPLICANT: Li, Yan

TITLE OP INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR

FILE REFERENCE: 26050-709.501

CURRENT APPLICATION NUMBER: US/10/723,434

CURRENT FILING DATE: 2003-11-26

PRIOR APPLICATION NUMBER: US 60/284,407

PRIOR FILING DATE: 2001-04-17

PRIOR APPLICATION NUMBER: US 10/125,687

PRIOR APPLICATION NUMBER: US 10/125,687

PRIOR PILING DATE: 2002-04-17

PRIOR APPLICATION NUMBER: US 10/153,176

PRIOR PILING DATE: 2002-05-20

PRIOR PILING DATE: 2002-05-20

PRIOR PILING DATE: 2002-05-20
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APPLICANT: Wang, Kevin C.
APPLICANT: Hsieh, Mark
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CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
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APPLICANT: Luo, Peizhi
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PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR FILING DATE: 2002-05-20
                                                                                                                                       TYPE: PRT ORGANISM: Artificial Sequence FEATURE:
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Hsieh, Mark
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Pred. No.
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                       0.12;
                                             DB 16; Length 107;
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APPLICANT: Li, Yan
TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REPERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR PILING DATE: 2001-04-17
PRIOR PILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
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PRIOR APPLICATION NUMBER: US 10/153,176
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PRIOR APPLICATION NUMBER: US 10/443,134
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PRIOR APPLICATION NUMBER: US 10/443,134
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US-10-723-434-12
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CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
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Publication No. US20040133357A1
GENERAL INFORMATION:
APPLICANT: Zhong, Pingyu
APPLICANT: Luo, Peizhi
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PRIOR APPLICATION NUMBER: US 10/443,134
PRIOR FILING DATE: 2003-05-20
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APPLICANT: Luo, Peizhi
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APPLICANT: Hsieh, Mark
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TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR
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Hsieh, Mark
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Pred. No. 0.12;
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; OTHER INFORMATION: VL
US-10-723-434-14
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US-10-723-434-14
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 100.0%; Score 54; DB 16; Length 107; Best Local Similarity 100.0%; Pred. No. 0.12; Matches 11; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                Sequence 8, Application US/09056160B
Patent No. US20020032315A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR FILE REFERENCE: 26050-709.501
CURRENT APPLICATION NUMBER: US/10/723,434
CURRENT FILING DATE: 2003-11-26
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR PILING DATE: 2002-05-20
PRIOR PILING DATE: 2003-05-20
PRIOR FILING DATE: 2003-05-20
PRIOR FILING DATE: 2003-05-20
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                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Artificial Sequence
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OTHER INFORMATION: VL
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APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENGTH: 107
                                                                                          APPLICANT: Chen, Yvonne M.
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
NUMBER OF SEQUENCES: 131
                                                                               CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         y Match 100.0%; Score 54;
Local Similarity 100.0%; Pred. No. (
1es 11; Conservative 0; Mismatch
                                         STREET:
                                                          ADDRESSEE:
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South San F
California
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No. US20040133357A1
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Hsieh, Mark
                 E: Genentech, Inc
1 DNA Way
outh San Francisco
                                                                                                                                     Presta, Leonard G.
Lowman, Henry B.
Chen, Yvonne M.
                                                                                                                                                                                                      Wells, James A.
                                                                                                                                                                                                                              Baca, Manuel
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PRIOR APPLICATION DATA:

APPLICATION NUMBER: 60/054,856

PILING DATE: 06-AUG-1997

ATTORNEY AGENT INFORMATION:

NAME: Hasak, Janet E.

REGISTRATION NUMBER: 28,616

REFERENCE/DOCKET NUMBER: P1093R2

TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/09/056,16
FILING DATE: 06-Apr 1998
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/054,856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: Hasak, Janet E.
REGISTRATION NUMBER: 28,616
REFERENCE/DOCKET NUMBER: P1093R2
TELECOMMUNICATION INFORMATION:
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INFORMATION FOR SEQ ID NO: 8
SEQUENCE CHARACTERISTICS:
LENGTH: 108 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
                                                                                                                                                   CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/056,160B
FILING DATE: 06-Apr-1998
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Chen, Yvonne M.
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                          STREET: 1 DNA Way
CITY: South San F
STATE: California
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                                                                                                                                                                                                                                                                                                                       ZIP: 94080
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Lowman, Henry B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wells, James A.
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                                                                                                                                                                                                                                                                                                                                                                             Francisco
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                       P1093R2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                            PRIOR APPLICATION DATA
APPLICATION NUMBER: 60/054,856
FILLING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: Hasak, Janet E.
REGISTRATION NUMBER: 28,616
REGISTRATION NUMBER: P1093R2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1896
TELEPHONE: 650/952-9881
                                                                                                                                                              TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 126:
SEQUENCE CHARACTERISTICS:
LENGTH: 108 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
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MEDIUM TYPE: 3.5 inc
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: ANTI-VEGF ANTIBODIES NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/09/056,160B FILLING DATE: 06-Apr-1998 CLASSIFICATION: 424
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Local Similarity 100.0%; Pred. No. 0.12;
mes 11; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: California
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                                                                               Local
                                                                                                                                             TOPOLOGY: Linear
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24
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                                                                               Similarity
                                                                                                                                                         I: 108 amino acids
Amino Acid
                              SASQDISNYLN 11
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Lowman, Henry B.
Chen, Yvonne M.
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                                                             100.0%; Score 54; Di
100.0%; Pred. No. 0.:
tive 0; Mismatches
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                                                                                            DB 9; Length 108;
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RESULT 29

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US-10-153-159-4
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APPLICANT: Zhong, Pingyu
APPLICANT: Zhong, Pingyu
APPLICANT: Wang, Caili
TITLE OF INVENTION: STRUCTURE-BASED SELECTION AND AFFINITY MATURATION OF ANTIBODY LIBI
TITLE OF INVENTION: SILICO
FILE REFERENCE: 26050-704
CURRENT APPLICATION NUMBER: US/10/153,159
CURRENT FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
NUMBER: OF SEQ ID NOS: 125
SOFTWARE: PAtentin version 3.1
SEQ ID NO 2
LENGTH: 108
                                                                                                                                                                                                                                                             APPLICANT: Zhong, Pingyu
APPLICANT: Wang, Caili
TITLE OF INVENTION: STRUCTURE-BASED SELECTION AND AFFINITY MATURATION OF ANTIBODY LIBI
TITLE OF INVENTION: SILICO
FILE REFERENCE: 26050-704
CURRENT PILICATION NUMBER: US/10/153,159
CURRENT PILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR FILING DATE: 2001-04-17
NUMBER OF SEQ ID NOS: 125
SOCTUMARE: Patentin version 3.1
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL IN... Peuc.
APPLICANT: Luo, Peuc.
APPLICANT: Hsieh, Mark
APPLICANT: Zhong, Pingyu
APPLICANT: Wang, Caili
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/10153159
Publication No. US20020177170A1
GENERAL INFORMATION:
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                                                                               Matches
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Best Local
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                                                                                                                                                                                                                     TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: VL of parental anti-VEGF antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
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24 SASQDISNYLN 34
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                         1 SASQDISNYLN 11
                                                                                                  Similarity
                                                                               Conservative
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                                                                                          100.0%;
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                                                                             Score 54; DB 1:
Pred. No. 0.12;
); Mismatches
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                                                                                                                   DB 13; Length 108;
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; OTHER INFORMATION: VL of parental anti-VEGF antibody
US-10-153-176-2
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; Sequence 16, Application US/10153159
; Publication No. US20020177170A1
                                                                                                                                                                                                                        APPLICANT: Liu, Shengjiang
TITLE OF INVENTION: GENERATION AND AFFINITY MATURATION OF ANTIBODY LIBRARY IN SILICO
FILE REFERENCE: 26050-701
CURRENT APPLICATION NUMBER: US/10/153,176
CURRENT FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR PRILING DATE: 2001-04-17
PRIOR PRILING DATE: 2001-04-17
NUMBER OF SEQ ID NOS: 125
SOFTWARE: Patentin version 3.1
SEQ ID NO 2
LENGTH: 108
TYPE: NEWT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn version 3.1 SEQ ID NO 16
                                                            Query Match 100.0%; Score 54; DB 14; Length 108; Best Local Similarity 100.0%; Pred. No. 0.12;
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CURRENT FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
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TITLE OF INVENTION: STRUCTURE-BASED SELECTION AND AFFINITY MATURATION OF ANTIBODY LIF
TITLE OF INVENTION: SILICO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
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TYPE: PRT
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                                                                                                                                                                   ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                             TYPE: PRT
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1 SASQDISNYLN 11
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Zhong, Pingyu
Wang, Caili
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Zhong, Pingyu
Wang, Caili
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PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
NUMBER OF SEQ ID NOS: 125
SOFTWARE: PatentIn version 3.1
SEQ ID NO 16
LENGTH: 108
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                    ; FEATURE:
; OTHER INFORMATION: VL of AM2-ccFv
US-10-153-176-16
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Publication No. US20030022240A1
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Query Match
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Heich, Mark
APPLICANT: Zhong, Pingyu
APPLICANT: Wang, Coalii
APPLICANT: Cao, Yicheng
APPLICANT: Li, Shengfeng
APPLICANT: Liu, Shengfeng
APPLICANT: Liu, Shengfiang
APPLICANT
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CURRENT FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
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APPLICANT: Liu, Shengjiang
TITLE OF INVENTION: GENERATION AND AFFINITY MATURATION OF ANTIBODY LIBRARY IN SILICO
FILE REFERENCE: 26050-701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/10/153,176
CURRENT FILING DATE: 2002-05-20
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NUMBER OF SEQ ID NOS: 125
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TYPE: PRT
ORGANIEM: Artificial Sequence
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Zhong, Pingyu-
Wang, Caili
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Pred. No.
        DB 14;
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    Length 108;
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; Sequence 124, Application US/10234671
; Publication No. US20030190317A1
; GENERAL INFORMATION:
; APPLICANT: Baca, Manuel
                                                                                              RESULT 36
US-10-234-671-124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 35
US-10-234-671-10
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Publication No. US20030190317A1
GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatin (Genentech)

CURRENT APPLICATION NUMBER: US/10/234,671

PILING DATE: 03-Sep-2002

CLASSIFICATION NUMBER: US/10/234,671

PILING DATE: 06-APR-1998

APPLICATION NUMBER: 09/056160

FILING DATE: 06-APR-1999

APPLICATION NUMBER: 60/126446

FILING DATE: 07-APR-1997

APPLICATION NUMBER: 60/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 60/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 40/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 80/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 80/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 80/054856

FILING DATE: 06-AUG-1997

APPLICATION NUMBER: 41/637

REFERENCE/DOCKET NUMBER: P1093R2C1

TELEPHONE: 65/1/25-8674
                                                                                                                                                                                                                                                                                                 Match 100.0%; Score 54; DB 14; Length 108; Local Similarity 100.0%; Pred. No. 0.12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Genente
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: ANTI-VEGF ANTIBODIES NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Baca, Manuel
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                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 108 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: 650/225-8674
                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Presta, Leonard G.
Lowman, Henry B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Yvonne M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 37
                                                                                                                                                                                                                                                     Sequence 2, Application US/10443134A
Publication No. US20040010376A1
GENERRAL INFORMATION:
APPLICANT: Luo, Peizhi
APPLICANT: Hsieh, Mark
APPLICANT: Hsieh, Mary
APPLICANT: Wang, Pingyu
APPLICANT: Wang, Caili
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
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APPLICANT: Wang, Caili
APPLICANT: Cao, Yicheng
APPLICANT: Liu, Shengjiang
APPLICANT: Liu, Shengjiang
APPLICANT: Liu, Shengjiang
TITLE OF INVENTION: GENERATION AND SELECTION OF PROTEIN LIBRARY IN SILICO
FILE REFERENCE: 26050-709
CURRENT APPLICATION NUMBER: US/10/443,134A
CURRENT FILING DATE: 2003-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR FILING DATE: 2002-04-17
PRIOR FILING DATE: 2001-04-17
PRIOR FILING DATE: 2001-04-17
PRIOR FILING DATE: 2010-04-17
PRIOR FILING DATE: 2010-04-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: 650/225-8674
TELEPAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 124:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 09/056160
FILING DATE: 06-APR-1998
APPLICATION NUMBER: 60/126446
FILING DATE: 07-APR-1997
APPLICATION NUMBER: 60/054856
FILING DATE: 06-AUG-1997
ATTORNEY/AGENT INFORMATION:
NAME: Cui, Steven X.
REGISTRATION NUMBER: 44,637
REFERENCE/DOCKET NUMBER: 91093R2C1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/234,671
FILING DATE: 03-Sep-2002
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb:
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chen, Yvonne M.
TITLE OF INVENTION: ANTI-VEGF ANTIBODIES
NUMBER OF SEQUENCES: 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 108 amino acids
TYPE: Amino Acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 54; DB 14; Length 108; 100.0%; Pred. No. 0.12;
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; TYPE: PRT; ORGANISM: Artificial Sequence; PEATURE; PEATURE; OTHER INFORMATION: VL of matured anti-VEGF antibody; US-10-443-134A-4
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                                                                                                                                US-10-443-134A-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR APPLICATION NUMBER: US 10/153,159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 131
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/10443134A
Publication No. US20040010376A1
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SEQ ID NO 2
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                                                                           GENERAL INFORMATION:
                                                                                           Sequence 16, Appropriate Publication No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: 26050-709
CURRENT APPLICATION NUMBER: US/10/443,134A
CURRENT FILING DATE: 2003-05-20
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PRIOR APPLICATION NUMBER: US 10/153,159
PRIOR FILING DATE: 2002-05-20
NUMBER OF SEQ ID NOS: 131
APPLICANT: Luo, Peizhi
APPLICANT: Hsieh, Mark
APPLICANT: Zhong, Pingyu
APPLICANT: Wang, Caili
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Cao, Yicheng
APPLICANT: Liu, Shengjiang
TITLE OF INVENTION: GENERATION AND SELECTION OF PROTEIN LIBRARY IN SILICO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: VL of parental anti-VEGF antibody
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TYPE: PRT
ORGANISM: Artificial Sequence
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Zhong, Pingyu
Wang, Caili
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                                                                                           Application US/10443134A
No. US20040010376A1
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Pred. No. 0.12;
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TITLE OF INVENTION; GENERATION AND SELECTION OF PROTEIN LIBRARY IN SILICO
FILE REFERENCE: 26050-709
CURRENT FILING DATE: 2003-05-20
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR APPLICATION NUMBER: US 10/125,687
PRIOR TILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 60/284,407
                                                          Query Match
Best Local Similarity 100.
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SEQ ID NO 127
SENGTH: 108
TYPE: PRT
ORGANISM: Artificial Sequence
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LENGTH: 10
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PRIOR FILING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/153,159
PRIOR FILING DATE: 2002-05-20
NUMBER OF SEQ ID NOS: 131
                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 2002-05-20
NUMBER OF SEQ ID NOS: 131
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PRIOR FILLING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: US 60/284,407
PRIOR FILLING DATE: 2001-04-17
PRIOR APPLICATION NUMBER: US 10/153,176
PRIOR FILLING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: US 10/153,159
PRIOR APPLICATION NUMBER: US 10/153,159
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Zhong, Pingyu
APPLICANT: Wang, Caili
APPLICANT: Cao, Yicheng
APPLICANT: Cao, Yicheng
APPLICANT: Liu, Shengjiang
TITLE OF INVENTION: GENERATION AND SELECTION OF PROTEIN LIBRARY IN SILICO
FILE REFERENCE: 26050-709
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Local Similarity 100.0%; Pred. No.
hes 11; Conservative 0; Mismatch
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                  1 SASQDISNYLN 11
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SASQDISNYLN
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Pred. No. 0.12;
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Search completed: December 17, 2004, 18:38:00 Job time: 22.2584 secs

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Result
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Maximum
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Maximum Match 100%
Listing first 45 summaries
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re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.
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length: 2000000000
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1 SASQDISNYLN 11
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1: pir1:*
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Match
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Gapop 10.0 ,
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   SASQDISNYLN 11
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 Description
g kappa chain
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Matches

10;

Conservative

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Mismatches

0

Indels

0

Gaps

0

RESULT 2  IS2592  Ig kappa chain V region - human (fragment) C;Species: Homo sapiens (man) C;Accession: I52592 C;Accession: I52592 R;Magner, S.D.; Martinelli, V.; Luzzatto, L. Blood 83, 3647,3653, 1994 A;Title: Similar patterns of V kappa gene usage but different degrees of somat A;Reference number: I52592; MUJD:94264318; PMID:8204889 A;Accession: I52592 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: DNA A;Residues: 1-87 <res- <imm="" a;cross-references:="" a;gene:="" c;genetics:="" c;superfamily:="" domain:="" f;9-83="" gb:s71057;="" homology="" igkv="" immunoglobulin="" nid:g547053;="" pid:g547054="" pidn:aab30971.1;="" region;="" v=""> Ouery Match Best Local Similarity 100.0%; Pred. No. 0.043;</res->	RESULT 1  \$42265  Ig kappa chain V region (018) - human  C;Species: Homo sapiens (man)  C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 17-Mar-1999  C;Accession: \$42265  R;Scott, M.G.; Crimmins, D.L.; McCourt, D.W.; Chung, G.; Schaeble, K.F.; Thieb  J. Immunol. 147, 4007-4013, 1991  A;Title: Clonal characterization of the human IgG antibody repertoire to Haemo A;Reference number: \$42263; MUID:92043792; PMID:1940382  A;Accession: \$42265  A;Accession: \$42265  A;Accession: \$42263; MUID:92043792; PMID:1940382  A;Residues: 1-62 <sco> A;Cross-references: EMBL:M64856  C;Genetics: A;Introns: 19/1  C;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin  Query Match Best Local Similarity 100.0%; Pred. No. 0.031; Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0  2 ASQDISNYIN 11  Db 25 ASQDISNYIN 34</sco>	30 47 87.0 111 2 A38740 Ig kappa chain V r 31 47 87.0 111 2 E38740 Ig kappa chain V r 32 47 87.0 121 2 E38740 Ig kappa chain V r 33 47 87.0 122 2 A23980 Ig kappa chain V r 34 47 87.0 126 2 A34904 Ig kappa chain pre 35 47 87.0 127 2 S51247 Ig kappa chain V r 36 46 85.2 108 2 S11124 Ig kappa chain V r 37 45 83.3 107 2 S32188 Ig kappa chain V r 38 45 83.3 108 1 KIHUAU Ig kappa chain V r 40 45 83.3 110 2 I38740 Ig kappa chain V r 41 45 83.3 111 2 I38740 Ig kappa chain V r 42 44 81.5 108 2 S24320 Ig kappa chain V r 43 44 81.5 108 2 S19674 Ig kappa chain V r 44 44 81.5 109 2 S31981 Ig kappa chain V r 45 44 81.5 109 2 S31981 Ig kappa chain V r 46 81.5 109 2 S31981 Ig kappa chain V r 47 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r 48 81.5 109 2 S31981 Ig kappa chain V r
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Ig kappa chain V region (ASWU1) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 21-Jan-2000
C;Accession: S38564
R;Monestier, M.; Losman, L.J.; Novick, K.B.; Aris, J.P.
submitted to the EMBL Data Library, September 1993
A;Bescription: Molecular analysis of mercury-induced anti-nucleolar antibodies in H-2s |
A;Reference number: S38559
A;Accession: S38564
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A;Title: V-kappa gene segments rearranged in chronic lymphocytic leukemia are distribute
A;Reference number: $34076; MUID:93170387; PMID:8436174
A;Accession: $34087
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-88 <WAG>
A;Cross-references: EMBL:X67171
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;9-83/Domain: immunoglobulin homology <IMM>
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C.Species: Homo sapiens (man)
C.Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 21-Jan-2000
C.Accession: S34088
R.Wagner, S.D.; Luzzatto, L.
Bur. J. Immunol. 23, 391-397, 1993
Bur. J. Timmunol. 23, 391-397, 1993
A.Reference number: S34076; MUID:93170387; PMID:8436174
A.Accession: S34088
A.Status: preliminary
A.Molecule type: DNA
A.Residues: 1-88 <MAGS-
A.Residues: 1-80 <MAGS-
A.Residues: 1-8
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S38564
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C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 21-Jan-2000
C;Accession: S34087
R;Wagner, S.D.; Luzzatto, L.
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C;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin C;Keywords: heterotetramer; of the control of t
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C;Species: Homo sapiens (man)
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Pred. No.
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0.043;
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0.043;
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F;50-56/Region:
F;57-88/Region:
F;89-95/Region:
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A;Reference number: DNA
A;Recession: PH0862
A;Molecule type: DNA
A;Residues: 1-95 <MAN>
C;Comment: This antibody is produced by Epstein-Barr virus-transformed B cell that bears C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;16-90/Domain: immunoglobulin homology <IMM>
F;14-34/Region: complementarity-determining 1
F;35-49/Region: framework 2
F;35-49/Region: framework 2
F;35-49/Region: framework 2
                                                                                                                                                                  Ig kappa chain V region (anti-DNA, III-3R) - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 09-Oct-1992 #sequence_revision 09-Oct-1992 #text_change 21-Jan-2000
C;Accession: PH0862
C;Accession: PH0862
R;Manheimer-Lory, A.; Katz, J.B.; Pillinger, M.; Ghossein, C.; Smith, A.; D:
J. Exp. Med. 174, 1639-1652, 1991
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A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-93 <MON>
A;Cross-references: EMBL:X75105; NID:g414153; PIDN:CAA52996.1; PID:g414154
C;Superfamily: immunoglobulin v region; immunoglobulin homology
C;Keywords: immunoglobulin
F;16-90/Domain: immunoglobulin homology <IMM>
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S69901
                                                                  A;Cross-references: EMBL:X55042; NID:g511025; PIDN:CAA38882.1; PID:g511026
C;Superfamily: immunoglobulin V region; immunoglobulin homology
F;16-90/Domain: immunoglobulin homology <IMM>
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A; Residues: 1-107 < WYS>
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C;Accession: B28044
R;Meek, K.; Sanz, I.; Rathbun, G.; Nisonoff, A.; Capra, J.D.
Proc. Natl. Acad. Sci. U.S.A. 84, 6244-6248, 1987
A;Title: Identity of the V-kappa-10-Ars-A gene segments of the A;Reference number: A94179; MUID:87317629; PMID:3114744
A;Accession: B28044
A;Molecule type: mMNA
A;Residues: 1-107 <mmsb-
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
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C;Accession: D48677
R;Tassignon, J; Brait, M.; Jamila, I.; Urbain, J.; Gottlieb, P.; Brown, A.; Hasemann, Proc. Natl. Acad. Sci. U.S.A. 90, 9508-9512, 1993
A;Title: Molecular characterization of monoclonal CRI-A-positive anti-arsonate antibod. A;Reference number: A48677; MUID:94022404; PMID:8415731
A;Accession: D48677
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A; Residues: 1-107 «MES»
C; Superfamily: immunoglobulin V region; immunoglobulin homology
C; Keywords: heterotetramer; immunoglobulin
F;16-90/Domain: immunoglobulin homology < IMM>
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A;Title: Identity of the V-kappa-10-Ars-A gene segments of the A;Reference number: A94179; MUID:87317629; PMID:3114744
A;Accession: A28044
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C;Species: Mus musculus (house mouse)
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;Species: Mus musculus (house mouse)
;Date: 19-May-1989 #sequence_revision 19-May-1989 #text_change 21-Jan-2000
;Accession: B28044
Superfamily: immunoglobulin V region; immunoglobulin homology; Keywords: heterotetramer; immunoglobulin; 16-90/Domain: immunoglobulin homology < IMM>
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;Species: Mus musculus (house mouse)
;Date: 19-May-1989 #sequence_revision 19-May-1989 #text_change 21-Jan-2000
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A;Experimental source: strain lupus-prone MRL-lpr/lpr mouse C;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin P;16-90/Domain: immunoglobulin homology <IMM> F;24-34/Region: complementarity-determining 1 F;50-56/Region: complementarity-determining 2 F;89-97/Region: complementarity-determining 3
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A;Experimental source: MIR-lpr/lpr
A;Note: sequence extracted from NCBI backbone (NCBID:60876)
R;Puccetti, A.; Koizumi, T.; Migliorini, P.; Andre-Schwartz, J.; Barrett
J. Exp. Med. 171, 1919-1930, 1990
A;Title: An immunoglobulin light chain from a lupus-prone mouse induces
A;Reference number: PL0220; MUID:90278348; PMID:1693654
A;Accession: PL0220
                                                                                                                                                                                                                      R;Wysocki, L.J.; Creadon, G.; Lehmann, K.R.; Cambier, J.C. Immunology 75, 116-121, 1992
A;Title: B-cell proliferation initiated by Ia cross-linking A;Reference number: S69900; MUID:92165291; PMID:1537587
A;Accession: S69906
                                                                        A;Cross-references: EMBL:X55047; NID:g511035; PIDN:CAA38887.1; PID:g511036
C;Superfamily: immunoglobulin V region; immunoglobulin homology
F;16-90/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                          Ig kappa chain (clone KL4A1) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 14-Feb-1997 #sequence_revision 13-Mar-1997 #text_change
C;Accession: $69906
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                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-107 < WYS>
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                                                                                                                                                                                                                                                                               sustained by
                                                                                                                                                                                                                                                                                                                                                                              21-Jan-2000
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Similarity

Conservative

<u>.</u>

Mismatches

0

Indels

0

<u>.</u>

0.053;

fron

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Ig kappa chain V region (45-49, anti p-azophenylarsonate) - mouse (fragment) C;Species: Mus musculus (house mouse) C;Date: 24-Feb-1994 #sequence_revision 24-Feb-1994 #text_change 21-Jan-2000 C;Accession: PLO282 R;Wysocki, L.J.; Gefter, M.L.; Margolies, M.N.

J. Exp. Med. 172, 315-323, 1990
A;Title: Parallel evolution of antibody variable regions by somatic processe y point mutation and selection rather than by gene conversion.
A;Reference number: PLO281; MUID:90293694; PMID:2358780
A;Accession: PLO281
                                                                                                  RESULT 15
C26405
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A;Experimental source: strain A/J
A;Note: hp 93G7 differs in having 93-Met; HP 123E6 differs in having 7-Ser, 92-Tyr, and Arg, 84-Ser, and 93-Ala
C;Comment: The sequence shown is HP R16.7.
C;Complex: An immunoglobulin heterotetramer subunit consists of two identical light (kap hain disulfide bonds. In some cases, such as IgA and IgW, the subunits associate into la C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer
F;16-90/Domain: immunoglobulin homology <IMM>
F;23-88/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ig kappa chain V regions (anti-arsonate hybridoma proteins) - mouse C;Species: Mus musculus (house mouse) C;Date: 06-Jul-1982 #sequence_revision 06-Jul-1982 #text_change 09-Jul-2004 C;Accession: A01927
Ig kappa chain V region (3D10) - mouse C;Species: Mus musculus (house mouse) C;Date: 30-Jun-1988 #sequence_revision C;Accession: C26405
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A; Residues: 1-108 < WYS>
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Proc. Natl. Acad. Sci. U.S.A. 78, 7679-7683, 1981
A;Title: Complete amino acid sequence of light chain variable regions derived from five A;Reference number: A01927; MUID:82150934; PMID:6801658
A;Accession: A01927
A;Molecule type: protein
A;Residues: 1-108 <SIE>
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                        #sequence_revision 30-Jun-1988 #text_change 21-Jan-2000
                                                                                                                                                                                                                                                                                 92.6%; Scc
/ 100.0%; Pr
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Pred. No. 0.053;
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A;Reference number: A90518; MUID:87157677; PMID:3103682
A;Accession: C26405
A;Molecule type; protein
A;Residues: 1-108 <SMI>
A;Experimental source: strain A/J
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Reference number: $37200
A;Accession: $38862
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-108 <FIS>
A;Cross-references: EMBL:X75854; NID:g429109; PID:g429110
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;16-90/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ig kappa chain V region - mouse
C;Species: Mus musculus (house mouse)
C;Date: 06-Feb-1995 #sequence_revision 06-Feb-1995 #text_change 2
C;Accession: S38862
R;Fischer, R.; Voss, A.; Hunziker, W.; Stierhof, Y.D.; Kreuzaler, submitted to the EMBL Data Library, August 1993
A;Description: Production and cloning of TMV-specific monoclonal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
S38862
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Immunology 75, 116-121, 1992
A; Title: B-cell proliferation initiated by
A; Reference number: S69900; MUID:92165291;
A; Accession: S69902
                                                                                                                                                                                                                                                                                                               Ig kappa chain (clone KL2.28) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 14-Feb-1997 #sequence_revision 13-Mar-1997 #text_change
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S69902
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Biochemistry 26, 604-612, 1987
A;Title: Complete amino acid s
                                                                          A;Cross-references: EMBL:X55043; NID:g511027; PIDN:CAA38883.1; PID:g511028
C;Superfamily: immunoglobulin V region; immunoglobulin homology
F;16-90/Domain: immunoglobulin homology <IMM>
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A; Residues: 1-108 < WYS>
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Query Match
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                  92.6%;
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100.0%; Pred. No.
tive 0; Mismatc
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100.0%; Pred. No. 0.
tive 0; Mismatches
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                    Score 50;
Pred. No.
    Mismatches
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PMID:1537587
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A; Fitle: B-cell proliferation initiated by Ia cross-linking and sustained by interleuking A; Reference number: S69900; MUID:92165291; PMID:1537587
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A;Title: B-cell proliferation initiated by Ia cross-linkin
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C;Species: Mus musculus (house mouse)
C;Date: 14-Feb-1997 #sequence revision 13-Mar-1997 #text_change 21-Jan-2000
C;Accession: $69900; $69907; $69908
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A; Residues: 1-108 < WY2>
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A;Accession: S69903
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Mus musculus (house mouse)
C;Date: 14-Feb-1997 #sequence revision 13-Mar-1997 #text_change 21-Jan-2000
C;Accession: $69903; $69904; $69905
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A; Residues: 1-108 < WY3>
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A;Residues: 1-108 <WYS>
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       Query Match
Best Local S
Matches 10
                                                                                              ;Residues: 1-108 <MY3>
;Cross-references: EMBL:X55046; NID:g511033; PIDN:CAA38886.1; PID:g511034
;Superfamily: immunoglobulin V region; immunoglobulin homology
;16-90/Domain: immunoglobulin homology <IMM>
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Local Similarity 100.0%;
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92.6%; but
100.0%; Pr
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                            Score 50; DB 2; Length 108; Pred. No. 0.053;
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  0.053;
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R;Hawkins, R.E.; Zhu, D.; Ovecka, M.; Winter, G.; Hamblin, T.J.; Stevenson, F.K. submitted to the EMBL Data Library, March 1994
A;Description: Idiotypic vaccination against human B-cell lymphoma: rescue of variable A;Reference number: S44105
A;Accession: S44118
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S44118
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C;Species: Homo sapiens (man)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 24-May-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: DNA
A;Residues: 1-115 <KIM>
A;Residues: 1-115 <KIM>
A;Residues: 1-115 <KIM>
A;Experimental source: AJI strain
A;Experimental source: AJI strain
A;Note: sequence extracted from NCBI backbone (NCBIN:62777, NCBIP:62780)
C;Superfamily: immunoglobulin v region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;36-110/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Accession: A53276
R;Kim, S.O.; Sanz, I.; Williams, C.; Capra, J.D.; Gottlieb, P.D.
Immunogenetics 34, 231-241, 1991
A;Title: Polymorphism in V kappa 10 genes encoding L chains of antibodies bearing A;Accession: A53276; MUID:92010099; PMID:1916951
A;Accession: A53276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: EMBL:Z31395; NID:g472972; PIDN:CAA83270.1; PID:g940529 C;Superfamily: immunoglobulin V region; immunoglobulin homology C;Keywords: heterotetramer; immunoglobulin F;16-90/Domain: immunoglobulin homology <IMM>
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R;Kaartinen, M.; Rocca-Serra, J.; Maekelae, O. Mol. Immunol. 25, 859-865, 1988
Mol. Immunol. 25, 859-865, 1988
A;Title: Combinatorial association of V genes: one VH gene codes for three non-cross-reac A;Reference number: JL0076; MUID:89096973; PMID:3211160
                                                                                                Ig kappa chain precursor V region (anti-phenyloxazolone, 18C10) - mouse (fragment) C;Species: Mus musculus (house mouse) C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 21-Jan-2000 C;Accession: JL0080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ig kappa chain V region - mouse
C;Species: Mus musculus (house mouse)
C;Date: 02-May-1994 #sequence_revision 18-Nov-1994 #text_change 21-Jan-2000
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100.0%;
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A; Introns: 19/1
C; Superfamily: it
C; Keywords: hete:
F; 38-112/Domain:
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C;Species: Homo sapiens (man)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 21-Jan-2000
C;Accession: $42263
R;Scott, M.G.; Crimmins, D.L.; McCourt, D.W.; Chung, G.; Schaeble, K.F.; Thiebe, R.; Que
J. Immunol. 147, 4007-4013, 1991
A;Title: Clonal characterization of the human IgG antibody repertoire to Haemophilus inf
A;Reference number: $42263; MUID:92043792; PMID:1940382
A;Accession: $42263; MUID:92043792; PMID:1940382
A;Accession: $42263
A;Status: preliminary
A,Molecule type: DNA
A;Residues: 1-117 <SCO>
A;Ccoss-references: EMBL:M64855; NID:g185963; PIDN:AAA55925.1; PID:g185964
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A;Note: the authors translated the codon AGG for residue 30 as Ser
                                                                                                                             A;Cross-references: EMBL:M64856 C;Genetics:
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A; Residues: 1-117 <SCO>
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A;Status: preliminary
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                                                  ;Introns: 19/1
;Introns: 19/1
;Superfamily: immunoglobulin V region; immunoglobulin homology
;38-112/Domain: immunoglobulin homology <IMM>
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100.0%; F;
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100.0%; Pred. No. 0.0
Live 0; Mismatches
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     Score 50; DB 2;
Pred. No. 0.058;
0; Mismatches
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ember 1991
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3. 0.057;
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   preliminary; not
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Ig kappa chain V region (2G8) - mouse C; Species: Mus musculus (house mouse) C; Species: Mus musculus (house mouse) C; Date: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 21-Jan-2000 C; Accession: B37266 R; Ruff-Jamison, S.; Campos-Gonzalez, R.; Glenney Jr., J.R. J. Biol. Chem. 266, 6607-6613, 1991 A; Title: Heavy and light chain variable region sequences and antibody properties of A; Reference number: A38740; MUID:91177923; PMID:1706720 A; Accession: B37266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: mRNA
A;Residues: 1-129 <ROC>
A;Cross-references: EMBL:X85995; NID:g758588; PIDN:CAA59987.1; PID:g758589
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
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A;Residues: 1-128 <SAN>
A;Cross-references: UNIPROT:Q91WF8; GB:M15519
A;Cross-references: UNIPROT:Q91WF8; GB:M15519
C;Superfamily: immunoglobulin V region; immuno;
C;Keywords: heterotetramer; immunoglobulin
F;36-110/Domain: immunoglobulin homology <IMM>
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Proc. Natl. Acad. Sci. U.S.A. 84, 1085-1089, 1987
A;Title: V-K and J-K gene segments of A/J Ars-A antibodies:
A;Reference number: A26406; MUID:87147197; PMID:3103124
A;Accession: A26406
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A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Rocca, A.; Khamlichi, A.A.; Touchard, G.; Mougenot, B.; Ronco, P.; Denoroy, L.; Deret, submitted to the EMBL Data Library, March 1995
A;Description: Light chain V region gene usage restriction and peculiarities in myeloma-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Species: Homo sapiens (man)
C;Date: 19-May-1995 #sequence_revision 21-Jul-1995 #text_change 21-Jan-2000
C;Accession: S52789
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C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1989 #sequence_revision 30-Jun-1991 #text_change 09-Jul-2004
C;Accession: A26406
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R;Ruff-Jamison, S.; Campos-Gonzalez, R.; Glenney Jr., J.R.
J. Biol. Chem. 266, 6607-6613, 1991
A;Title: Heavy and light chain variable region sequences and antibody properties
A;Reference number: A38740; MUID:91177923; PMID:1706720
A;Accession: G38740
RESULT
A38740
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                                                                                                                                                                                                                      R;Experimental source: strain A/J
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
E;16-90/Domain: immunoglobulin homology <IMM>
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                                                                                                                                                                                                                                                                                                                                      A;Reference number: A90518; MUID:87157677; A;Accession: B26405
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Biochemistry 26, 604-612, 1987
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R; Smith, J.A.; Marge
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C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 21-Jan-2000
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C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Kupwords: heterotetramer; immunoglobulin
F;19-93/Domain: immunoglobulin homology <IMM>
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A; Residues: 1-111 < RUF>
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C;Species: Mus musculus (house mouse)
C;Date: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 09-Jul-2004
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Best Local Similarity
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Pred. No. 0.19;
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Pred. No. 0.
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Pred. No. 0.083;
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Ig kappa chain V region (Py2) - mouse (Species: Mus musculus (house mouse) C; Species: Mus musculus (house mouse) C; Date: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 09-Jul-2004 C; Accession: C38740 R; Ruff-Jamison, S.; Campos-Gonzalez, R.; Glenney Jr., J.R. J. Biol. Chem. 266, 6607-6613, 1991 J. Title: Heavy and light chain variable region sequences and antibody prope A; Reference number: A38740; MUID:91177923; PMID:1706720 A; Accession: C38740 A; Accession: C38740 A; Status: preliminary; nucleic acid sequence not shown; not compared with constants.
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E38740
A;Cross-references: UNIPROT:Q91WS9
C;Superfamily: immunoglobulin V region; imm
C;Keywords: heterotetramer; immunoglobulin
F;19-93/Domain: immunoglobulin homology <IV
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C38740
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C;Superfamily: immunoglobulin V region; immuno
C;Keywords: heterotetramer; immunoglobulin
F;19-93/Domain: immunoglobulin homology <IMM>
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A;Title: Heavy and light chain variable region sequences and A;Reference number: A38740; MUID:91177923; PMID:1706720
A;Accession: B38740
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C;Superfamily: immunoglobulin V region; immuno
C;Keywords: heterotetramer; immunoglobulin
E;19-93/Domain: immunoglobulin homology <IMM>
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A; Residues: 1-111 < RUF>
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A; Residues: 1-111 < RUF >
                                                                                                    A; Residues: 1-111 < RUF>
                                                                                                                            A; Molecule type: mRNA
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Best Local Similarity
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Pred. No.
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A;Molecule type: mRNA
A;Residues: 1-126 <BED>
A;Cross-references: UNIPROT:Q91WF8
A;Cross-references: UNIPROT:Q91WF8
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ig kappa chain precursor V region (5-27) - mouse (;Species: Mus musculus (house mouse) C;Species: Mus musculus (house mouse) C;Date: 27-Jul-1990 #sequence_revision 27-Jul-1990 #text_change 09-Jul-2004 C;Accession: A34904 R;Bedzyk, W.D.; Herron, J.N.; Edmundson, A.B.; Voss Jr., E.W. J. Biol. Chem. 265, 133-138, 1990 J. Biol. Chem. 265, 133-138, 1990
  Ig kappa chain V region - mouse
C;Species: Mus musculus (house mouse)
C;Date: 08-May-1995 #sequence_revision 21-Jul-1995
C;Accession: S52447
R;Berdoz, J.; Kraehenbuhl, J.P.
submitted to the EMBL Data Library, November 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: mRNA
A;Residues: 1-122 <CHE>
A;Residues: 1-122 <CHE>
A;Cross-references: GB:M17160; GB:J02815; NID:g196895; PIDN:AAA38824.1; PID:g196896
A;Note: the authors translated the codon TTC for residue 1 as Leu
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
C;Keywords: heterotetramer; immunoglobulin
                                                                                                                              RESULT 35
S52447
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A34904
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C;Accession: A29380
R;Chen, H.T.; Kabat, E.A.; Lundblad, A.; Ratcliffe, R.M.
J. Biol. Chem. 262, 13579-13583, 1949
A;Title: Nucleotide and translated amino acid sequences of cDNA
A;Reference number: A92612; MUID:88007582; PMID:3115981
A;Accession: A29380
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musculus (house mouse)
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Pred. No. 0.21;
1; Mismatches
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Pred. No.
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A;Reference number: S32185
A;Accession: S32188
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-107 <IZU>
A;Cross-references: EMBL:X70090; NID:g288253; PIDN:CAA49695.1; PID:g288254
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;16-90/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Description: Specific amplification by the polymerase chain reaction of x A;Reference number: S52445
A;Accession: S52447
A;Status: preliminary
A;Status: preliminary
A;Genetius: 1-127 <BER>
A;Cross-references: EMBL:X82688; NID:g673443; PIDN:CAA58009.1; PID:g673444
C;Genetics: A;Introns: 17/1
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin
F;36-110/Domain: immunoglobulin homology <IMM>
                                                                                                                                                                                                                                                                     Ig kappa chain V region - mouse (frae C;Species: Mus musculus (house mouse) C;Date: 06-Feb-195 #sequence_revisic C;Accession: S32188 R;Izui, S.
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S32188
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A;Residues: 1-108 «KAA»
A;Note: 87-Phe was also found
C;Superfamily: immunoglobulin V region; immuno
F;16-90/Domain: immunoglobulin homology «IMM»
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ig kappa chain V region (clone NQ5-89.4) - mouse (fragment) C;Species: Mus musculus (house mouse) C;Date: 19-Mar-1997 #sequence_revision 18-Jul-1997 #text_change C;Accession: S11124 R;Kaartinen, M.; Griffiths, G.M.; Markham, A.F.; Milstein, C. Nature 304, 320-324, 1983
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S11124
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A;Accession: S11124
A;Status: preliminary
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                                 Score 45; DB
Pred. No. 0.43
1; Mismatches
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Pred. No. 0.22
1; Mismatches
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Pred. No.
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ASQDISNYLH

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Ig kappa chain V-I region (Au) - human

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25 ASQDIRNYLN 34

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C;Date: 24-Apr-1984 #sequence revision 02-Jul-1998 #text_change 09-Jul-2004 C;Accession: A91653; A01862; S02573 C;Accession: A91653; No1862; S02573 R;Schiechl, H.; Hilschmann, N. Hoppe-Seyler's Z. Physiol. Chem. 353, 345-370, 1972 A;Title: Die Primaerstruktur einer monoklonalen Immunglobulin-L-Kette vom kappa-Typ, Sub A;Reference number: A91653; MUID:72189444; PMID:5028201
                                                                                                                                                                                                                                                                                                          A,Title: Development of humanized bispecific antibodies reactive with cytotoxic lymphocy A;Reference number: PH0885; MUID:92113462; PMID:1346155
A;Accession: PH0888
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C;Complex: an immunoglobulin heterotetramer subunit consists of two identical light (kap hain disulfide bonds; in some cases, such as IgA and IgM, the subunits associate into la c;Superfamily: immunoglobulin V region; immunoglobulin homology
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A;Note: the structure of the V region was determined by molecular replacement methods us
R;Steiner, V.; Chang, J.Y.
FEBS Lett. 222, 6-10, 1987
A;Title: Chemical modification of the carboxyl groups of protein substrates enhances the
A;Reference number: S02572; MUID:88005152; PMID:3115831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Fehlhammer, H.; Schiffer, M.; Epp, O.; Colman, P.M.; Lattman, B.B.; Schwager, P.; Stei Biophys. Struct. Mech. 1, 139-146, 1975
A;Title: The structure determination of the variable portion of the Bence-Jones protein A;Reference number: A90729; MUID:77022433; PMID:1234024
                                                                                                                                                                                                                                                                                                                                                                                                    C;Accession: PH0888
R;Shalaby, M.R.; Shepard, H.M.; Presta, L.; Rodrigues, M.L.; Beverley, P.C.L.; Feldmann,
J. Exp. Med. 175, 217-225, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ig kappa chain V region (anti-CD3) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 09-Oct-1992 #sequence_revision 09-Oct-1992 #text_change 21-Jan-2000
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,Residues: 1-109 <SHA>
,Superfamily: immunoglobulin V region; immunoglobulin homology
,Keywords: immunoglobulin
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2 ASQDISNYLN 11
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Ig kappa chain V region (Py42) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 18-Oct.1991 #sequence_revision 18-Oct.1991 #text_change 21-Jan-2000
C;Accession: 138740
R;Ruff-Jamison, S.; Campos-Gonzalez, R.; Glenney Jr., J.R.
J. Biol. Chem. 266, 6607-6613, 1991
A;Title: Heavy and light chain variable region sequences and antibody properties of anti-A;Reference number: A38740; MUID:91177923; PMID:1706720
A;Accession: 138740
A;Accession: 138740
A;Status: preliminary; nucleic acid sequence not shown; not compared with conceptual trar A;Molecule type: mRNA
A;Residues: 1-111 <RUF>
C;Superfamily: immunoglobulin V region; immunoglobulin homology
C;Keywords: heterotetramer; immunoglobulin homology <IMMN>
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Search completed: December 17, 2004, 18:30:15
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Nucleic Acids Res. 15:4877-4888(1987).
EMBL; X05929; CARBE2012.1;
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05-JUL-2004 (TrEMBLrel. 27, Last sequence up
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DNA rearranged by a t(2;8) translocation letin the cell line JI (clone JIp) (Fragment).
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02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
Human DNA rearranged by a t(2;8) translocation leading to Burkitt's
lymphoma in the cell line JI (clone JIp) (Fragment).
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EMBL; XO5929; CAE82012.1; -
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MEDLINE=87259967; PubMed=3110741;
Klobeck H.G., Combriato G., Zachau
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21-JUL-1986 (Rel. 01, Last sequence up
05-JUL-2004 (Rel. 44, Last annotation
1g kappa chain V-V region HP 9367.
This musculus (Mouse).
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InterPro; IPR003596; Ig-v.
Pfam; PF00047; ig; 1.
SMART; SM00406; IGv; 1.
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from five monoclonal anti-p-azophenylarsonate ant
with respect to a crossreactive idiotype.";
Proc. Natl. Acad. Sci. U.S.A. 78:7679-7683(1981).
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MEDLINE=82150934; PubMed=6801658;
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                                                                                                                           STRAIN=A/J;
MEDLINE=82150934; PubMed=6801658;
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PROSITE; PS50835; IG_LIKE;
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HSSP; P01594; 1JV5.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
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By similarity.
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21-JUL-1986 (Rel. 0
21-JUL-1986 (Rel. 0
05-JUL-2004 (Rel. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Siegelman M., Capra J.D.;

"Complete amino acid sequence of light chain variable regions from five monoclonal anti-p-azophenylarsonate antibodies diffe with respect to a crossreactive idiotype.";

Proc. Natl. Acad. Sci. U.S.A. 78:7679-7683 (1981).
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InterPro; IPR003596; Ig_v.
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SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 1.
                                                                                                                                                         DISULFID NON_TER
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SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 1.
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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Mus musculus (Mouse)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=82150934; PubMed=6801658;
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IPR003596; Ig_v.
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t 23 Framework-1.
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Pred. No.
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Complementarity-determining-3
Framework-4.
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Pramework-2.
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XX MEDLINE-22388257; PubMedel12477932;
XX MEDLINE-22388257; PubMedel12477932;
XX MEDLINE-2388257; PubMedel12477932;
XX MEDLINE-2388257; PubMedel12477932;
XX Altschul S.F., Zebberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
XX Altschul S.F., Zebberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
XX Altschul S.F., Zebberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
XX Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
XX Loguellan K., Farmer A.A., Rubin G.M., Hong L.,
XX Stapleton M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,
XX Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,
XX Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,
XX Brokards S., Worlelano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
XX Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
XX Althory S., Worley K.C., Hale S., Garcia A.M., Gy L.J., Hulyk S.W.,
XX Althory S., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
XX Althory M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
XX Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
XX Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
XX Althory S. J., Malek U., Smailus D.E., Schnerch A., Schein J.E.,
XX Althory S. J., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
XX Althory S. J., Malek U., Smailus D.E., Schnerch A., Schein J.E.,
XX Althory S. J., Malek U., Smailus D.E., Schnerch A., Schein J.E.,
XX Althory S. J., Malek U., Smailus D.E., Schnerch A., Schein J.E.,
XX Althory S. J., Malek U., Smailus D.E., Schnerch A., Schein J.E.,
XX Althory S. J., Malek U., Smailus D.E., Schein J.E.,
XX Althory S. J., Malek U., Smailus D.E., Schein J.E.,
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Best Local S
Matches 10
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01-DEC-2001 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
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02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
ANA immunoglobulin kappa light chain (Fragment).
                                                                              Proc.
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 [1]
SEQUENCE FROM N.A.
SEQUENCE FVB/N; TISSUE=Colon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10090;
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Liang Z., Xie C., Chen C., Kre
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Mammalia, Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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STRAIN=FVB/N;
                                                                                                                                       Jones S.J., Marra M.A.; "Generation and initial analysis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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                           EQUENCE FROM N.A
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                                                                                                                  mouse
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10; Conservative
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                                                                                                               cDNA sequences."
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111 AA;
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TISSUE=Colon;
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12120 MW;
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Rodentia;
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100.0%; Pr
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26,
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Sciurognathi; Muridae; Murinae;
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                                                                                    99:16899-16903 (2002)
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Submitted (
EMBL; BC015
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P01647;
21-JUL-1986
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SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Complete amino acid sequence of light chain variable regions deriftrom five monoclonal anti-p-azophenylarsonate antibodies differing with respect to a crossreactive didotype.";

Proc. Natl. Acad. Sci. U.S. A. 78:7679-7683(1981).

-!- MISCELLANEOUS: Anti-arsonate hybridoma protein.
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PROSITE; PS00290; IG_MHC; UNKNOWN
PROSITE; PS00962; RIBOSOMAL_S2_1;
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MEDLINE=82150934; PubMed=6801658;
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05-JUL-2004
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InterPro; IPR003596; Ig_v.
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05-JUL-2004 (Rel. 44, Last annotation
Ig kappa chain V-V region HP 124E1.
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Local Similarity hes 9; Conserv
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1JFQ; X-ray; I
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); IPR0077110; Ig-like.
); IPR003597; Ig c1.
); IPR003006; Ig MHC.
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Rodentia;
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Best Local S
Matches 9
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Q8R062;
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01-JUN-2002 (TrEMBLrel. 2
01-MAR-2004 (TrEMBLrel. 2
                                                                                                                                                  Hypothetical protein.
Mus musculus (Mouse).
Eukaryota; Metazoa; Chc
Mammalia; Eutheria; Roc
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SEQUENCE
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STRAIN=A/J;
SEQUENCE FROM N.A.
STRALN=FVB/N; TISSUE-Colon;
MEDILINE=22388257; PubMed=12477932;
Strausberg R.L., Feingold E.A., Grouse L.H.,
Klausner R.D., Collins F.S., Wagner L., Shenr
Altschul S.F., Zeeberg B., Buetow K.H., Schae
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Mus musculus (Mouse).
Bukaryota, Metazoa, Chordata;
Mammalia; Eutheria; Rodentia;
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21-JUL-1986 (Rel. 01, Last sequence up
05-JUL-2004 (Rel. 44, Last annotation
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SMART; SM00406; IGv;
PROSITE; PS50835; IG
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InterPro; IPR003596; Ig_v.
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                                                                                                                                                      Craniata; Vert
Sciurognathi;
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   Shenmen C
Schaefer
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thi; Muridae; Murinae; Mus
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0.71;
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   Derge J.G.,
men C.M., Schuler G.D
efer C.F., Bhat N.K.,
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InterPro; IPR003597; Ig cl.
InterPro; IPR003006; Ig MHC.
InterPro; IPR003006; Ig v.
Pfam; PF07654; Cl-Bet; I.
Pfam; PF00767; Ig; 1.
SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 2.
PROSITE; PS50839; IG_MHC; UNKNOWN_1.
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NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
ANA immunoglobulin kappa light chain (Fragment).
Mus musculus (Mouse)
Eukaryota : Matara
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                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

STRAIN-B6.Sle1; TISSUE-Spleen;
Liang Z., Xie C., Chen C., Kreska D., Hsu K., Zh
Liang Z., Xie C., Chen C., Kreska D., Hsu K., Zh
"Antinuclear autoantibodies from B6.Sle1 mice.";
Submitted (SEP-2003) to the EMBL/GenBank/DDBJ da
EMBL; AY436840; AAR11000.1; -.
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02-MAR-2004
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HSSP; P01594; LUV5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Strausberg R.; Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases.
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                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10090;
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Similarity 90.0%;
9; Conservative
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ASQDISNYLN 11
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                                                                                                                                                                  11250 MW;
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90.9%;
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Pred. No. 1.6;
0; Mismatches
                                                 Score 46; DB 2;
Pred. No. 1.1;
0; Mismatches
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02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
ANA immunoglobulin kappa light chain (Fragment).
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=77022433; PubMed=1234024; Fehlhammer H., Schiffer M., Epp O., Schwager P., Steigemann W., Schramm
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21-JUL-1986 (Rel. 01, Last sequence up
01-OCT-2004 (Rel. 45, Last annotation
01-by kappa chain V-I region AU.
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PIR; A91653; K1HUAU.
PDB; 1JV5; X-ray; A=1-107.
GO; GO:0005576; C:extracellular; NAS.
GO; GO:0003823; F:antigen binding; NAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Rule of antibody structure. The primary structure immunoglobulin L-chain of the kappa-type, subgroup protein Au).";
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Liang Z., Xie C., Chen C., Kreska D., Hau K., Zhou J.X., Mohan
"Antinuclear autoantibodies from B6.Sle1 mice.";
Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P01594;
21-JUL-1986
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                                                                                                                                                                                                                                                                                                                           Jones protein Au.";
Biophys. Struct. Mech.
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Schiechl H., Hilschmann N.;
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Mammalia, Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                                                                                                                                                                                                                                                                                             The structure determination of the variable portion
                                                                                                                                           phys. Struct. Mech. 1:139-146(1975).

MISCELLANEOUS: The structure of the V region was complecular replacement methods using the known structure of the kappa chain REI.

MISCELLANEOUS: The C region of this chain has the MISCELLANEOUS: This is a Bence-Jones protein.
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Pred. No. 1.
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PROSITE; PS50835; IG_LIKE; 1.
3D-structure; Bence-Jones pro
InterPro; IPR007110; Ig-like
InterPro; IPR003596; Ig_v.
Pfam; PP00047; ig; 1.
                                                                                                                          Wu X., Liu B., Van Young D.C.;
                                                                                                                                          MEDLINE=98277139; PubMed=9614934; Wan X. Liu B., Van der Merwe P.L.,
                                                                                                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                     NCBI_TaxID=9606;
                                                                                                                                                                                                                                                     Homo sapiens (Human)
                                                                                                                                                                                                                                                                                    Myosin-reactive
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                                                                                                fetus."
                                                                                                             "Myosin-reactive autoantibodies
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InterPro; IPR003596; Ig_v.
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                                             Immunol. Immunopathol. 87:184-192(1998)
AF035033; AAD56269.1; -.
P01607; 1BWW.
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(TrEMBLrel. 25, Last annotation update)
ive immunoglobulin light chain variable
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PROSITE; PS50835; IG LI
NON TER 1 107
NON TER 107
SEQUENCE 107 AA; 115
related fragment of the human KI Bence Jones protein Wat.";
J. Wol. Biol. 147:185-193(1981).
-!- MISCELLANEOUS: This is a Bence-Jones protein.
DDB; INTL; X-ray; A/B=1-108.
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01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-OCT-2004 (Rel. 45, Last annotation update)
Ig kappa chain V-I region WAT.
Thomo sapiens (Human)
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Huang D.-B., Chang C.-H., Ainsworth C
Solomon A., Stevens F.J., Schiffer M.
"Comparison of crystal structures of i
structural origin of altered domain in
                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
Pfam; PF00047; ig; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GO; GO:0005576; C:extracellular; NAS. GO; GO:0003823; F:antigen binding; NAS. GO; GO:0006955; P:immune response; NAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=81267384; PubMed=6167731;
Stevens F.J., Westholm F.A., Pana
Popp R.A., Solomon A.;
"Characterization and preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                               PROSITE; PS50835; IG
                                                                                                                                                                                                                                                                                                                                                                                                                       SMART;
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                                                                                                                                                                                                                                                                                                                                                                          3D-structure;
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immunoglobulin
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GO; GO:0005576; C:extracellular; NAS.
GO; GO:0003823; F:antigen binding; NA
GO; GO:0006955; P:immune response; NA
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entre the Entre are no restrained by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
MEDLINE-85014148; PubMed-6091049;
Klobeck H.G., Combriato G., Zacha
                                                                                                               Pfam; PF00047; ig; 1.
SMART; SM00406; IGv; 1.
                                                                                                                                                                                         EMBL; X00965; CAA25477.1; ALT_TERM. PIR; A01883; K1HUWK.
                                                                                                                                                                                                                      entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HUMAN
                                                                                                                                                                                                                                                                                                    Nucleic Acids Res. 12:6995-7006(1984).
                                                                                                                                                                                                                                                                                                            Klobeck H.G., Combriato G., Zachau H.G.; "Immunoglobulin genes of the kappa light chain type from two lymphoid cell lines are closely related.";
                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                     13-AUG-1987 (Rel.
13-AUG-1987 (Rel.
15-JUL-1999 (Rel.
                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                            Ig kappa chain
                                                                                              mmunoglobulin
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                                                                                                       IG_LIKE; 1.
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Pred. No. 2.6;
                                             Complementarity-determining-1. Framework-2.
                 Complementarity-determining-3
                           Framework-3
                                   Complementarity-determining-2.
                                                                Ig kappa chain V-I region Walker.
Framework-1.
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X Strausberg R.L., Peingold B.A., Grouse L.H., Derge J.G.,

X Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

X Klausner R.D., Collins F.S., Wagner L., Schaefer C.F., Bhat N.K.,

X Altschil S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

X Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

X Lington M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

X Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

X Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

X Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

X Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

X Raha S.S., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

X Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

X Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Yallalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

X Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

X Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

X Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

X Villalon D.K., Muzny D.M., Sodergren E.J., Dickson M.C.,

X Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

X Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,

Teneration and initial analysis of more than 15,000 full-length human

Teneration and initial analysis of more than 15,000 full-length human
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Best Local Similarity
Matches 9; Conser
                                                                                                                                                                                                                                                                               EMBL; BC005332; AAH05332.1; ...
InterPro; IPR007110; Ig-like.
InterPro; IPR003597; Ig-cl.
InterPro; IPR003597; Ig-MC.
InterPro; IPR003506; Ig-MC.
InterPro; IPR003596; Ig-V.
Pfam; PF007654; Cl-Bet; I.
Pfam; PF000477; Ig; 1.
SMART; SM00406; IGV; 1.
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Q7Z3Y4;
01-OCT-2003
01-OCT-2003
01-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NON TER
                                                                                                                                                                       Hypothetical SEQUENCE 23
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hypothetical protein. Homo sapiens (Human).
                                                                                                                                                                                                                           PROSITE; PS50835; IG_LIKE; 2.
PROSITE; PS00290; IG_MHC; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases
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TISSUE=Skeletal Mu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rissum=Skeletal Muscle;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and mouse cDNA sequences."
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                                                            Similarity 100 9; Conservative
ASQDISNYL 10
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129 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sci. U.S.A. 99:16899-16903(2002).
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Pred. No.
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GO; GO:0003823; F:anttgen binding; NAS.
GO; GO:0006955; F:immune reeponse; NAS.
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
Pfam; PF00047; ig; 1.
SMART; SM00406; IGv; 1.
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STRALN=B6.Sle1; TISSUB=Spleen;
Liang Z., Xie C., Chen C., Kreska D., Hsu K.,
Liang Z., Xie C., Chen C., Kreska D., Hsu K.,
"Antinuclear autoantibodies from B6.Sle1 mice.
Submitted (SEP-2003) to the EMBL/GenBank/DDBJ
EMBL; AY436892; AAR11052.1; -.
                                                                                                                                                                                          PROSITE; PS50835; IG_LIKE; 1.
Bence-Jones protein; Direct p
Immunoglobulin V region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 J. Biol. Chem. 244:3550-3560(1969).
-!- MISCELLANEOUS: The C region of this chain has the INV
-!- MISCELLANEOUS: This is a Bence-Jones protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Titani K., Shinoda T., Putnam F.W.;
"The amino acid sequence of a kappa type E
complete sequence and the location of the
J. Biol. Chem. 244:3550-3560(1969).
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Mammalia; Eutheria;
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P01593;
21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence up
05-JUL-2004 (Rel. 44, Last annotation
15 kappa chain V-I region AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-MAR-2004 (TrEMBLrel. 27, Created)
02-MAR-2004 (TrEMBLrel. 27, Last sequence update)
02-MAR-2004 (TrEMBLrel. 27, Last annotation update)
ANA immunoglobulin kappa light chain (Fragment).
Mis immunoglobulin kappa light chain (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=69234734; PubMed=4893682; Michan F.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A01861; K1HUAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P01607; 1BWW.
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9; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ASQDISYYLN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          103
103 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
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50
57
V region.
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11332 MW;
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Rodentia;
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Primates;
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90.0%;
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Pred. No.
   Complementarity-determining-3
                                       Framework-3.
                                                              Complementarity-determining-2
                                                                                                 Framework-2.
                                                                                                                            Complementarity-determining-1.
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                                                                                                                                                                                                                          sequencing;
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5.9;
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e disulfide bridges.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CRC64;
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 8
                                                                                                                      05-JUL-200.
05-JUL-2004 (Trans...
05-JUL-2004 (Trans...
Hypothetical protein.
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01-DEC-2001
01-DEC-2001
01-OCT-2003
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DISULFID
NON TER
SEQUENCE
       SEQUENCE FROM N.A.
TISSUE-Spleen;
MEDLINE=22388257; PubMed=12477932;
Strausberg R.L., Feingold E.A., Gr
Klausner R.D., Collins F.S., Wagne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NON TER
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                                                                                                                                                                                                                      Q6GMX0;
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.

MEDLINB=21361171; PubMed=11468171;
Comenzo R.L., Zhang Y., Martinez C.,

"The tropism of organ involvement in
contributions of Ig V(L) germ line ge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-DEC-2001 (TrEMBLrel. 19, 0
01-DEC-2001 (TrEMBLrel. 19, 1
01-OCT-2003 (TrEMBLrel. 25, I
Kappa 1 light chain variable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Blood 98:714-720(2001).
EMBL; AF361758; AAK51465.1;
HSSP; P80362; IWTL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Name=SDNK1;
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                                                                                                                                                                                                                                                                                                     Q6GMX0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00047; ig; 1
SMART; SM00406; IGv;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   burden.
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8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                  ASQDISNYLN
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IPR003596; Ig_v.
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116 AA;
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23
108
108 AA;
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                                                                                                                                                                                                                                                                                                     PRELIMINARY;
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12735 MW;
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80.0%;
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e region (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 42;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 42;
Pred. No.
             Wagner
                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ment in primary systemic amyloido line gene use and clonal plasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E796FC2217BFCF57 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ed. No. 6.2;
Mismatches
                                 Grouse L.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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6.7;
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               Shenmen
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                                                                                                                                                                                                                          update)
           Derge J.G
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a J.G.,
M., Schuler
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RESULT 23
KV5J_MOUSI
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Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Barownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Barownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Barownstein M.J., Wedin R.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villain D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Rahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Whiting M., Watan A., Touchman J.W., Green E.D., Dickson M.C.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Schein J.E.,
Jones S. J., Marra M.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A Straubberg R.;

Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.

Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.

R EMBL; BEO73775; AAH73775.1; -.

R InterPro; IPR003599; Ig-like.

R InterPro; IPR003597; Ig-like.

R InterPro; IPR003596; Ig-MHC.

R InterPro; IPR003596; Ig-W.

R InterPro; IPR003596; Ig-V.

R InterPro; IPR003596; Ig-V.

R InterPro; IPR003596; Ig-V.

R InterPro; IPR003596; Ig-V.

R Pfam; PF07654; C1-set; T.

R PROSITE; PS00406; IGV; 1.

R PROSITE; PS0406; IG
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21-JUL-1986 (Rel. (
05-JUL-2004 (Rel. (
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PIR; A01926; KVMS73.
HSSP; P01594; 1JV5.
InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
Pfam; PF00047; ig; 1.
                                                                                                                                                                                            "Determination of the primary structure of immunoglobulin. Amino-acid sequence of the Eur. J. Biochem. 59:525-537(1975).
-I- MISCELLANEOUS: This chain was isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jones S.J., Marra M.A.;
"Generation and initial analysis of more than 15,000 and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=76091934; PubMed=812696;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mouse)
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light chain.";
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                                                                                                              EMBL/Gender data.

preliminary data.

EMBL; AABLO1002034; EAA18272.1; -.

EMBL; AABLO1002034; GAPCR Rhodpsn.

InterPro; IPR000276; GPCR Rhodpsn.

PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; G PROTEIN RECEP F1 1; UNKNOWN PROSITE; PS00237; PS00237
                                                                                                                                                                                                                                                                                                                                                           Carlton J.M., Angiuoli S.V., Suh B.B., Kooij T.W., Pertea M., Silva J.C., Ermolaeva M.D., Allen J.E., Selengut J.D., Koo H.L., Peterson J.D., Pop M., Kosack D.S., Shumway M.F., Bidwell S.L., Shallom S.J., van Aken S.E., Riedmuller S.B., Feldblyum T.V., Cho J.K., Quackenbush J., Sedegah M., Shoaibi A., Cummings L.M., Florens L., Yates F.R. III, Raine J.D., Sinden R.E., Harris M.A., Cunningham D.A., Preiser P.R., Bergman L.W., Vaidya A.B., van Lin L.H., Janse C.J., Waters A.P., Smith H.O., White O.R., Salzberg S.L., Venter J.C., Fraser C.M., Hoffman S.L., Gardner M.J., Carneco D.J.;
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01-MAR-2004 (TrEMBLrel. 26,
01-MAR-2004 (TrEMBLrel. 26,
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STRAIN=17XNL;
PubMed=12368865;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                 "Genome sequence and comparative analysis of the model rodent malaria parasite Plasmodium yoelii yoelii.";
Nature 419:512-519(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Plasmodium yoelii yoelii.
Bukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
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RESULT 25 Q91WS9 ID Q91WS AC Q91WS

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RESULT 26
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RC STRAIN=FWB/N; TISSUE-Colon;

RX MEDLINE=22388257; PubMede112477932;

RX MEDLINE=22388257; PubMede112477932;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Klausner R.D., Collins F.S., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Liechul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Millahy S.J.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gabs R.A.,

Villalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

RA Ahley J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

RA Krzywinski M.I., Skalska U., Smailus D.E., Schmerch A., Schein J.E.,

"Geners E.O., Marra M.A.;

"Grierers R.M., Schein J., Schmit J., Marra M.A.;

"Grierers R.M., Schein J., Schmit J., Monta M.A.;

"Grierers R.M., Schmit J., Monta M., Schein J.E.,

"Grierers R.M., Schein J., Schmit J., Monta M., Schein J.E.,

"Grierers R.M., Schein J., Schmit J., Monta M., Schein J.E.,

"Grierers R.M., Schein J., Schmit J., Schm
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InterPro; IPR003397; Ig_cl.
InterPro; IPR003397; Ig_wHC.
InterPro; IPR003596; Ig_w.
Pfam; PF07654; Cl.set; I.
Pfam; PF00047; ig; 1.
SMART; SM00406; IGv; 1.
Q6LZW4 PRELIMINARY; PRT; 583 AA.
Q6LZW4;
Q6LZW4;
Q5-JUL-2004 (TrEMBLrel. 27, Created)
Q5-JUL-2004 (TrEMBLrel. 27, Last sequence update)
Q5-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Q5-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Formylmethanofuran dehydrogenase, subunit A (EC 1.2.99.5)
Name=fmdA; OrderedLocusNames=MMP0509;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-DEC-2001
01-DEC-2001
01-MAR-2004
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PIR;
PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hypothetical protein (Fragment).
Mus musculus (Mouse).
Bukaryota; Metazoa; Chordata; Cra
Mammalia; Eutheria; Rodentia; Sci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; BC013496; AAH13496.1;
PIR; A38740; A38740.
PIR; C38740; C38740.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS50835; IG_LIKE; 2.
PROSITE; PS00290; IG_MHC; UNKNOWN_1.
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STRAIN=FVB/N; TISSUE=Colon;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E38740; E38740.
G38740; G38740.
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8; Conserv
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(TrEMBLrel. 19, Last seq
(TrEMBLrel. 26, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA; 25781 MW;
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72.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                 53
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Last annotation updat
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Pred. No. 34;
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B1C184DA149A16EB CRC64;
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RESULT 27
CAP30065
ID CAP30065;
AC CAP30065;
DT 03-MAR-200
DT 03-MAR-200
DT 04-MAY-20
DT 04-MAY-20
DT ATCHARA
ON METHANOCO
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RN [1]
RP SEQUENCE
RC STRAIN-S2
RA CONWAY de
RA HAYDOCK A
RA MOOTE B.,
RA Saenphimm
RA Leigh J.A
RI Complete
RT methanoge
RT methanoge
RT SUBMITTED
RP SEQUENCE
RT MOOTE B.,
RA SAENPHIME
RA SAENPHIME
RA COMMAY GE
RA MOOTE B.,
RA MOOTE B.,
RA MOOTE B.,
RA SAENPHIME
RT METHANOGE
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Best Local S
Matches 7
                                                                                                  Query Match
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Matches 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-S2 / LL;
Hendrickson E.L., Kaul R., Zhou Y., Bovee D., Chapman P., Chung J.,
Conway de Macario E., Dodsworth J., Gillett W., Graham D.E.,
Conway de Macario E., Land M.L., Levy R., Lie T.J., Major T.,
Haydock A.K., Kang A., Land M.L., Levy R., Lie T.J., Major T.,
Moore B., Porat I., Overbeek R., Palmeiri A., Rouse G.,
Saenphimmachak C., Soll D., Whitman W.B., Larimer F.W., Olson M.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAF30065;
03-MAR-2004 (TrEMBLrel. 27,
03-MAR-2004 (TrEMBLrel. 27,
04-MAY-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; BX957220; CAF30065.1; -. GO; GO:001849; F:formylmethanofuran dehydrogenase activity; IEA. GO; GO:0016491; F:oxidoreductase activity; IEA. InterPro; IPR011059; Metalo_hydrolase.
                                                                                                                                                                                                                                  methanogen Methanococcus maripaludis.";
Submitted (FEB-2004) to the EMBL/GenBank/DDBJ
EMBL; BMS57220; CAF30065.1; -.
Oxidoreductase.
                                                                                                                                                                                                                                                                                                                                                                                        Hendrickson E.L., Kaul R., Zhou Y., Bovee D., Chapman P., Conway de Macario E., Dodsworth J., Gillett W., Graham D.E. Gonday de Macario E., Lodsworth J., Gillett W., Graham D.E. Haydock A.K., Kang A., Land M.L., Levy R., Lie T.J., Major Moore B., Porat I., Overbeek R., Palmeiri A., Rouse G., Saenphimmachak C., Soell D., Whitman W.B., Larimer F.W., C
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Archaea; Euryarchaeota; Methanococci; Methanococcales;
Methanococcaceae; Methanococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. STRAIN=S2 / LL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Formylmethanofuran FMDA OR MMP0509.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Archaea; Euryarchaeota; Methanococci; Methanococcaceae; Methanococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Methanococcus maripaludis.
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                                                                                                                                                                                                                                                                                                                                                                     eigh J.A.;
                                                                                                                                                                                                                                                                                                                                       Complete genome sequence of the mesophilic hydrogenotrophic
305
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                                                                                                     Similarity 7; Conserv
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                                                 SASQDISNYLN
SKAEDISNYVN
                                                                                                                                                                                                               583 AA;
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Lrel. 27, Last annotation update)
dehydrogenase, subunit A (EC 1.2.99.
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                                                                                                                                                                                                               64594 MW;
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Pred. No.
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Pred. No.
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                                                                                                                                                                                                               76CFF31FF5DA0263 CRC64;
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                                                                                                          Mismatches
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89;
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                                                                                                                                                                                                                                                                                         databases
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RESULT 28 Q8ILX3 ID Q8ILX

Q8ILX3

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Q7RDE ID Q7RDE AC Q7RDE AC Q7RDE AC Q7RDE DID Q7RDE DID Q7RDE GN Q7RDE GN Names OS Plasm OC GUAST COX NCBI_RN [1] RX PALMME RA Silve RA Silve RA Silve RA Carle RA Choll RX Carle RA Choll RX Carle RA Choll RX Carle RA Choll RA Carle RA Carle RA Carle RA Choll RA Carle RA Salat Natur CCC EMBL; KW Hypot SQ SEQUE
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q7RDE1;
01-MAR-2004
01-MAR-2004
                                                                                                                                                                                                                                                      Carlton J.M., Angiuoli S.V., Suh B.B., Kooij T.W., Pertea M., Silva J.C., Ermolaeva M.D., Allen J.E., Selengut J.D., Koo H.L., Peterson J.D., Pop M., Kosack D.S., Shumway M.F., Bidwell S.L., Shallom S.J., van Aken S.E., Riedmuller S.B., Feldblyum T.V., Cho J.K., Quackenbush J., Sedegah M., Shoaibi A., Cummings L.M., Plorens L., Yates F.R. III, Raine J.D., Sinden R.E., Harris M.A., Cunningham D.A., Preiser P.R., Bergman L.W., Vaidya A.B., van Lin L.H., Janse C.J., Waters A.P., Smith H.O., White O.R., Salzberg S.L., Venter J.C., Fraser C.M., Hoffman S.L., Gardner M.
                                                                                                                                                                 Carucci D.J.;
"Genome sequence and comparative ana.
"Genome sequence and comparative ana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plasmodium yoelii yoelii.
Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
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                                                   EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=17XNL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name=PY05481;
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MEDLINE=22255705; PubMed=12368864;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=36329;
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Bukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium
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01-MAR-2003
                                                                                               PubMed=12368865;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genome sequence of the human malaria parasite Plasmodium
                                                                            preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AE014817; AAN36732.1;
                                                      AABL01001745;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           419:498-511 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SASQDISNYLN 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ASSTDISNYMN 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               956 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (TrEMBLrel.
(TrEMBLrel.
  1116 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                   EAA17511.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               112773 MW;
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63.6%;
  132831 MW;
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Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
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3; Mismatches
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                                                                                                                                   here
  E24DA27C89E70495 CRC64
                                                                                                                                                                                                             analysis
                                                                                                     re is derived
shotgun (WGS)
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                                                                                                                                                                                                             of the
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                                                                                                                                                                                                               model rodent malaria
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Best Local
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05-JUL-2004
05-JUL-2004
SEQUENCE FROM N.A.

MEDLINE-22426065; PubMed=12537568;

MEDLINE-22426065; PubMed=12537568;

Celniker S.E., Wheeler D.A., Kronmiller B., Carlson J.W., Halpern A.,

Celniker S.E., Wheeler D.A., Kronmiller B., Frise E., Hodgson A.,

Patel S., Adams M., Champe M., Dugan S.P., Frise E., Holgson C.R.,

George R.A., Hoskins R.A., Laverty T., Muzny D.M., Nelson C.R.,

Paceleb J.M., Park S., Pfeiffer B.D., Richards S., Sodergren E.J.,

Paceleb J.M., Park S., Wan K., Stapleton M., Sutton G.G., Venter S., Svirskas R., Tabor P.E., Wan K., Stapleton M., Sutton G.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name=Msp-300; ORFNames=CG18251;
Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R George R.A., Lewis S.E., Richards S., Ashburner M., Henderson Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., Brandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Gabor Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Gabor Bardy R. G., Champe M., Pfeiffer B., Nelson C.R., Gabor B. C., Baxter E.G., Helt G., Nelson C.R., Gabor B. C., Baxter E.G., Helt G., Nelson C.R., Gabor B. C., Baxter E.G., Helt G., Nelson C.R., Gabor B. C., Baxter E.G., Helt G., Nelson C.R., Gabor B. C., Baxter E.G., Helt G., Nelson C.R., Gabor B. C., Baxter E.G., Helt G., Nelson C.R., Gabor B. C., Baxter E.G., Helt G., Nelson C.R., Gabor B. C., Baxter E.G., Helt G., Nelson C.R., Gabor B. C., Baxter E.G., Helt G., Nelson C.R., Gabor B. C., Baxter B. C.,
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63.6%;
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27,
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Pred. No. 1.8e
2; Mismatches
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Baldwin D.
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MSP-300 OR of Drosophila
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01-APR-2004
01-APR-2004
MEDLINE=20196006; PubMed=10731132;
Adams M.D., Celniker S.E., Holt R.A., Evans C.A.
Amanatides P.G., Scherer S.E., Li P.W., Hoskins
George R.A., Lewis S.E., Richards S., Ashburner
                                                                                                      Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIINE=22426069; PubMed=12537572;
Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Hradecky P., Huang Y., Kaminker J.S., Milburn G.H., Prochnik S.E.,
Smith C.D., Tupy J.L., Whitfied E.J., Bayraktaroglu L., Berman B.P.,
Bettencourt B.R., Celniker S.E., de Grey A.D., Drysdale R.A.,
Bettencourt B.R., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Rubin G.M.,
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                                                                                Neoptera; Endopterygota; Di
Ephydroidea; Drosophilidae;
                                                SEQUENCE FROM N.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Annotation of the Drosophila melanogaster euchromatic genome: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lewis S.E.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              transposable elements of the
                                                                                                                                                                                                                                                                                                                                                                                SM00150;
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IPR003900; KID repeat
IPR011036; PH related.
IPR002017; Spectrin.
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50; SPEC; 44.
o190; CYTOCHROME C; U
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                                                                                  Diptera; Brachycera; Muscomorpha; ae; Drosophila.
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Last sequence update)
Last annotation update)
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 Evans C.A., Gocayne J.D.
., Hoskins R.A., Galle R.
Ashburner M., Henderson
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E., Rubin
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RA Button G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Brandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Man K.H., Doyle C., Baxter E.G., Holt G., Welson C.R., Gabor G.L.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Borkova D., Botchan M.R., Butler H., Cadleu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Dodson K., Deup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.B., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Posler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Harris N.L., Matvey D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Harris M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
RA Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Noshrefi A.,
RA Reinert K., Remington K.S., Sunders R.D., Scheeler F., Shen H.,
RA Shie B.C., Siden-Klamos I., Simpson M., Skupski M.P., Smith T.,
RA Syirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
RA Hang Z.Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Henson S.M., Woodaget, Worley K.C., Wu D., Yang S., Yao Q.A., Ye J.,
RA Henson S.M., Shong F.N., Zhong W., Zhou W., Shub M., Smith H.O.,
RA Jiliu X., Zhong F.N., Zhong W., Zhou X., Smith H.O.,
RA Jiliu X., Smith G.M., Venter E., Wang A.H., Wang X.,
Ra Hang Z.Y., Massarman D.A., Weinstock G.M., Weissenbach J.,
RA Hang Z.Y., Shong F.N., Zhong W., Zhou X., Smith H.O.,
Ra Jiliu X., Smith H.O.,
Ra Jili
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                                                                                                                                               SEQUENCE FROM N.A.
MEDLINS=22426070; PubMed=12537573;
Kaminker J.S., Bergman C.M., Kronmiller
Patel S., Frise E., Wheeler D.A., Lewis
Ashburner M., Celniker S.B.;
                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=22426069; PubMed=12537572;
Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Hradecky P., Huang Y., Kaminker J.S., Milburn G.H., Prochnik S.E.,
Smith C.D., Tupy J.L., Whitfied E.J., Bayraktaroglu L., Berman B.P
Bettencourt B.R., Celniker S.E., de Grey A.D., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
                FlyBase;
                                                                                                                 "The transposable elements
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                               RA Addams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Addams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Addams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA Sutton G.G., Wortnan J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Barandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Ballew R.M., Bayer S.G., Helt G., Nelson C.R., Gabor G.L.,
RA Ballew R.M., Bayeni A., An H.J., Andrews-Pfannkoch C., Baldwin D.,
RA Ballew R.M., Bayeni A., Bayendale J., Bayraktaroglu L., Bessley E.M.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Botchar I.,
RA Gherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport I.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport I.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport I.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport I.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport I.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport I.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport I.B., Davies P.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Glan P., Harris M.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Glan P., Harris M.,
RA Hostin D., Houston K.A., Howland T.J., Hernandez J.R., Houck J.,
RA Haris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Hostin D., Houston K.A., Mixon K., Wei M.H., Ibegwam C.,
RA Merkulov G., Mishina N.V., Mobarry C., Morris J., Mochrefi A.,
RA Merkulov G., Mishina N.V., Mobarry C., Morris J., Mochrefi A.,
RA Merkulov G., Mishina N.V., Mobarry C., Morris J., Mochrefi A.,
RA Merkulov G., Mishina N.V., Mobarry C., Morris J., Mochrefi A.,
RA Merkulov G., Mishina N.V., Mobarry C., Moshed R., N.,
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Drosophila melanogaster (Fruit fly).
Eukaryota, Metazoa, Arthropoda; Hexapoda; Insecta; Prerygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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SEQUENCE
FlyBase;
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01-OCT-2002 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
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Pred. No.
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RESULT
Q96SA9
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01-DEC-2001
01-DEC-2001
01-MAR-2004
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Misra S., Crosby M.A., Mungall C.J., Millburn G.H., Prochnik S.E.,
Hradecky P., Huang Y., Kaminker J.S., Millburn G.H., Prochnik S.E.,
Smith C.D., Tupy J.L., Whitfied E.J., Bayraktaroglu L., Berman B.P.,
Bettencourt B.R., Celniker S.E., de Grey A.D., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
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Genome Biol. 3:RESEARCH0079-RESEARCH0079(2002).
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MRR-2004 (TrEMBLrel. 26, Last annotation update)
Anti-streptococcal/anti-myosin immunoglobulin kappa
                                                                                                                                                                                                                                                                                                                                                                                                     FlyBase; FBgn0010070; Mgp-300.
GO; GO:0007498; P:mesoderm developm
InterPro; IPR001715; Calponin-like.
InterPro; IPR000345; CytC heme BS.
InterPro; IPR0002017; Spectrin.
Dfam. prococo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kaminker J.S., Bergman C.M., Kronmiller B., Car. Patel S., Frise E., Wheeler D.A., Lewis S.E., R. Ashburner M., Celniker S.E.;
"The transposable elements of the Drosophila mea a genomics perspective.";
Genome Biol. 3:RESEARCH0084-RESEARCH0084(2002).
                                                                                                                                                                                                                                                                                                                                          Pfam; PF00307; CH; 2.
Pfam; PF00435; Spectrin; 35.
SMART; SM00033; CH; 2.
SMART; SM00150; SPEC; 44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=22426065; PubMed=12537568; Celniker S.E., Wheeler D.A., Kronm
                                                                                                                                                                                                                                                                                               SEQUENCE
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HSSP; Q15149; 1MB8.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM
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PS50021; CH; 2.
PS00190; CYTOCHROME C; UNKNOWN 1.
PS00190; CYTOCHROME C; UNKNOWN 1.
PS50021; CH; 2.
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                                                                                  PRELIMINARY;
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                                                                                                                                                                                                                               Score 40; DB
Pred. No. 1.4e
1; Mismatches
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                                                                                                                                                                                                                                                               Length 7735;
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InterPro; IPR003596; Ig_v.
Pfam; PF00047; Ig; 1.
SMART; SM00406; IGv; 1.
PROSITE; PS50835; IG_LIKE; 1.
NON_TER
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PIR; B49047; B49047.
PIR; PH0867; PH0867.
PIR; S16840; S16840.
PIR; S34973; S34983.
PIR; S34083; S34083.
PIR; S34086; S34086.
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MEDLINE-98277139; PubMed-9614934;
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Q9UL77;
Q9UL77;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Myosin-reactive immunoglobulin light chain variable
                               PROSITE;
NON_TER
NON_TER
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J. Immunol. 161:2020-2031(1998).
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Adderson E.E., Shikhman A.R., Mard K.E., Cunningham M.W.;
"Molecular analysis of polyreactive monoclonal antibodies from rheumatic carditis; human anti-N-acetylglucosamine/anti-myosin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9606;
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Eukaryota; Metazoa;
Mammalia; Eutheria;
SEQUENCE
                                                                                                                                       SMART;
                                                                                                                                                                                                                                                                                             PIR; B49047; B49047.
PIR; S34083; S34083.
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                                                                                                                                                                                                                                                                                                                                                                                                                                         fetus."
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                                                                     rPro; in 19; 1.
n; PF00047; 1g; 1.
RT; SM00406; IGv; 1.
res0835; IG_1KE; 1
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IPR003596; Ig_v.
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11738 MW;
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C06681716C4D16F3 CRC64;
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InterPro; IPR007110; Ig-like.
InterPro; IPR003596; Ig_v.
Pfam; PF00047; Ig; 1.
SMART; SM00406; IGv; 1.
Immunoglobulin V region; Signal.
SIGNAL 1 22
CHAIN 23 117 Ig ka
DOMAIN 23 45 Frame
Q9X556;
Q9X556;
01-NOV-1999
01-NOV-1999
01-MAR-2004
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NON TER
SEQUENCE
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38, Last annotation update)
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                                                                                                                                                                                                          DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
MEDLINE=81064681; PubMed=6777049;
Max E.E., Seidman J.G., Miller H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P01641;
                                                                                                                                                                                                                                                                                                                                                     EMBL; K00880; AAA39031.1; -. PIR; A01924; KVMS3B.
                                                                                                                                                                                                                                                                                                                                                                                     or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement
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int of kappa immunoglobulin
cryptic gene.";
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x Franz C.M.A.P., Worobo R.W., Quadri L.E.N., Schillinger U.,
A Holzapfel W.H., Vederas J.C., Stiles M.E.;
A Holzapfel W.H., Vederas J.C., Stiles M.E.;
T "Atypical genetic locus associated with constitutive produc
enterocin B by Enterococcus faecium BFE 900.";
L Appl. Environ. Microbiol. 65:2170-2178(1999).

R Appl. Environ. Microbiol. 65:2170-2178(1999).
R EMBL; AF121254; AAD28219.1; -.
R MEROPS; CO1.086; -.
R GG; GO:0004177; F:cystcine-type endopeptidase activity; IEA.
R GG; GO:0004197; F:cystcine-type endopeptidase activity; IEA.
R GG; GO:0004197; F:cystcine-type endopeptidase activity; IEA.
R GG; GO:0004197; F:cystcine-type sand peptidolysis; IEA.
R GG; GO:0004197; P:cystcine-type sand peptidolysis; IEA.
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STRAIN=V583 / ATCC 700802;

MEDLINE=22550857; PubMed=12663927; DOI=10.1126/science.1080613;

Paulsen I.T., Banerjei L., Myers G.S.A., Nelson K.E., Seshadri R.,

Read T.D., Foute D.B., Eisen J.A., Gill S.R., Heidelberg J.F.,

Tettelin H., Dodson R.J., Umayam L.A., Brinkac L.M., Beanan M.J.,

Daugherty S.C., DeBoy R.T., Durkin S.A., Kolonay J.F., Madupu R.,

Nelson W.C., Vamathevan J.J., Tran B., Upton J., Hansen T., Shetty

Khouri H.M., Utterback T.R., Radune D., Ketchum K.A., Dougherty B.A
TIGR; EF0302; -. TIGR; EF0302; -. GO: GO:0004177; F:aminopeptidase activity; IEA. GO; GO:0004197; F:cysteine-type endopeptidase activity; GO; GO:0006508; P:proteolysis and peptidolysis; IEA. InterPro; IPR004113; Peptidase CIB. InterPro; IPR004113; Pepticys acsite. Pfam; PF03051; Pept CI-like; 1. PIRSF; PIRSF005700; PepC; 1.
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01-JUN-2003 (TrEMBLrel.
01-JUN-2003 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                   Enterococcus faecalis.";
Science 29:2071-2074 (2003).
EMBL; AE016947; AA080165.1; -.
HSSP; Q13867; 2CB5.
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Enterococcus faecalis (Streptococcus faecalis).
Bacteria; Firmicutes; Lactobacillales; Enteroco
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PROSITE; PS00139; THIOL_PROTEASE_CYS; UNKNOWN_1.
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                                                                                                                                                                                                                                                                                                                                                       Q8EV69 PRELIMINARY; PRT; 1093 AA. Q8EV69; QBEV69; O1-MAR-2003 (TrEMBLrel. 23, Created) O1-MAR-2003 (TrEMBLrel. 23, Last sequence update) O1-MAR-2003 (TrEMBLrel. 23, Last annotation update) Hypothetical protein MYPE6990. OrderedLocusNames=MYPB6990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nature 407:506-513(2000).

EMBL; AL445067; CAC12570.1; -.

GO; GO:0003824; F:catalytic activity;

GO; GO:0008152; P:metabolism; IEA.

InterPro; IPR000873; AMP-bind.

Pfam; PF00551; AMP-binding; 3.
MEDIINE-22354719; PubMed=12466555;
Sasaki Y., Ishikawa J., Yamashita A., Oshima K., Kenri 'Yoshino C., Horino A., Shiba T., Sasaki T., Hattori M.;
"The complete genomic sequence of Mycoplasma penetrans, intracellular bacterial pathogen in humans.";
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STRALN=DSM 1728;
MEDLINE=20479972; PubMed=11029001;
RUEDD A., Graml W., Santos-Martine
RUEDD A., Frishman D., Stocker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9HI92;
01-MAR-2001
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                                                                                                                                                                                                                                                                                                      Mycoplasma penetrans. Bacteria; Firmicutes;
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                                                                                                                                                                                                                                                                   NCBI_TaxID=28227;
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an D., Stocker S., Lupa
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the thermoacidophilic scavenger
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Search completed: December 17, 2004, 19:14:40 Job time : 34.8764 secs
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Carlton J.M., Angiuoli S.V., Suh B.B., Kooij T.W., Pertea M.,

Silva J.C., Ermolaeva M.D., Allen J.E., Selengut J.D., Koo H.L.,

Silva J.C., Ermolaeva M.D., Allen J.E., Selengut J.D., Koo H.L.,

Peterson J.D., Pop M., Kosack D.S., Shumway M.F., Bidwell S.L.,

Shallom S.J., van Aken S.E., Riedmuller S.B., Feldblyvan T.V.,

Cho J.K., Quackenbush J., Sedegah M., Shoaibi A., Cummings L.M.,

Plorens L., Yates F.R. III, Raine J.D., Sinden R.E., Harris M.A.,

Cunningham D.A., Preiser P.R., Bergman L.W., Vaidya A.B.,

van Lin L.H., Janse C.J., Waters A.P., Smith H.O., White O.R.,

Salzberg S.L., Venter J.C., Fraser C.M., Hoffman S.L., Gardner M.J.,

Carucci D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q7PDL3 PRELIMINARY; PRT; 1665 AA.
Q7PDL3; O1-MAR-2004 (TrEMBLrel. 26, Created)
01-MAR-2004 (TrEMBLrel. 26, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLE) 26, Last annotation update)
Erythrocyte membrane protein PFEMP3.
Name=PY06125;
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EMBL; AP004173; BAC44491.1; -.
Complete proteome; Hypothetical protein.
SEQUENCE 1093 AA; 119056 MW; 3F2373983DC1CF79 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Genome sequence and comparative analysis of the model rodent malaria parasite Plasmodium yoelii yoelii.";
Nature 419:512-519(2002).
-!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is preligious.
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Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
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                                                                                                                                                                                                                                                                                                                                                                                                 preliminary data.
L; AABL01002038; EAA18281.1; -.
UENCE 1665 AA; 191206 MW; 03BB304FF802057C CRC64;
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70.0%; Pred. No. 4.2e+02;
tive 1; Mismatches 2;
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	The present invent specifically with useful in the diag diagnosis. The pre of the invention	Claim 4; Page 142;	New human type and derivatives of e.g. tumors, activity in can	WPI; 2001-26614 New human type and derivatives of e.g. tumors,	PI Hanai N, Shitara K, xx	(KYOW ) KYOWA HAKKO	30-SEP-1999; 99JP- 06-APR-2000; 2000JP-	PF 29-SEP-2000; 2000WO-JP006774	PD 05-APR-2001.	PN WO200123432-A1.	OS Mus musculus.	Ganglioside; GD3; cancer.	DE Ganglioside GD3 specific	03-JUL-2001 (first	AC AAB81983;	SULT 1 B81983 AAB81983 standard;		26 32 86.5 27 32 86.5 28 32 86.5 29 32 86.5 30 31 83.8 31 31 83.8 32 31 83.8 33 31 83.8 34 30 81.1 35 30 81.1 37 30 81.1 38 30 81.1 39 30 81.1 30 81.1 31 30 81.1	
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	cribes a monoclonal side GD3. The antibo nd therapy of tumour quence is a protein	Japanese.	ntion-determining region- nnglioside GD3, useful in nntigenicity, little side		Nakamura K, Niwa R;	KK.	291. 288.	774.				complementarity determining region;	antibody related peptide SEQ	٠		; 7 AA.	ALIGNMENTS	3 AAY69824 8 ADO10396 5 ABB93504 7 ADD14911 7 ADD14911 6 ABP97364 6 ABP90364 4 AAM97437 6 ABP012747 6 ABP013340 4 AAU5903340 4 AAU5903340 6 ABU279713 3 AAG49879 3 AAG49879 3 AAG24379 3 AAG24379 6 ABU3340	
antibody which can react dy and its derivatives are s, particularly cancer used in the exemplification					transplanted antibody diagnosis and therapy effects but potent		••.							CDR; antibody;	ID NO: 7.			,	

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Matches
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                                                                                                                   Ganglioside
                                                                                                                                                                            03-JUL-2001
                                                                                                                                                                                                                                    AAB81988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 7 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents in combination, applicable in treating malignant tumor like melanoma.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ganglioside GD3; anti-ganglioside
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                                cancer
                                                        Ganglioside; GD3; complementarity determining region; CDR; antibody;
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                                                                                                             GD3 specific antibody related protein SEQ ID NO:
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Pred. No. 1.7e+06;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAB81986 standard;
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06-APR-2000; 2000JP-00105088.
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06-APR-2000; 2000JP-00105088.
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                                                                                                                          Hanai N,
                                                                                                                                                                              (KYOW ) KYOWA HAKKO KOGYO KK.
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                                                                                                                       Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GD3 specific antibody related protein SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GD3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein; 108 AA
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Pred. No. 9.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 determining region; CDR; antibody;
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New human type complementation-determining region-transplanted and derivatives against ganglioside GD3, useful in diagnosis a

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RESULT 5
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Matches 7
                                                                                                                                                                                                                               The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therap of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ganglioside; GD3;
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                                                                                                                                                                                   Sequence 108
                                                                                                                                                                                                                                                                                                                                                                                             Claim 11; Page 174-175; 183pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                activity in cancer.
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06-APR-2000; 2000JP-00105088
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (KYOW ) KYOWA HAKKO KOGYO KK.
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                                                                              Similarity 7; Conserv
YSSNLHS
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Pred. No. 9.1
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Pred. No. 9.1
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                                                                                                       9.1;
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RESULT 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drugs containing genetically-modified antibody against ganglioside GD3, its fragment, immunocompetent cell activators or/and antitumor agents i combination, applicable in treating malignant tumor like melanoma.
                                WO200278739-A1
                                                                                                                                            Ganglioside
                                                                                                                                                                                                 Modified ganglioside GD3 antibody associated protein #6
                                                                                                                                                                                                                                                                                                                                                                        ABU11013 standard;
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                                                                                                                                            anti-ganglioside
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Pred. No. 9.1;
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                                                                                                                                            GD3 antibody; tumour; melanoma
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RESULT 8
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Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention describes drugs contain a genetically-modified antibody against ganglioside GD3 or its fragment and at least 1 of a substance capable of activating immunocompetent cells and a substance having an antitumor activity in combination. The drugs can be used to treat tumour like melanoma and can provide a treatment with enhanced therapeutic effect and little side-reactions, particularly to relieve problems of side-effects during the conventional single administration. This sequence represents a protein associated with the anti- ganglioside GD3 antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      combination,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drugs containing genetically-modified antibody against ganglioside GD3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2003-067410/06.
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       WPI; 1993-095510/12
                                                     Shitara K,
                                                                                                                                                                                                      18-SEP-1992;
                                                                                                                                                                                                                                                   24-MAR-1993
                                                                                                                                                                                                                                                                                                    EP533199-A2
                                                                                                                                                                                                                                                                                                                                                                           Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Promoter; variable; region; rat; immunoglobulin; heavy; H; chain; humanised; chimeric; antibody; expression vector.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rat immunoglobulin L chain varible region of pKM641LA2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-MAR-2003
12-JUL-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR33257;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR33257 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-MAR-2001; 2001JP-00097483
                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (KYOW ) KYOWA HAKKO KOGYO KK
                                                                                                                                                     18-SEP-1991;
                                                                                                     (KYOW ) KYOWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fragment,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 YSSNLHS 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Page 113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YSSNLHS 56
                                                  Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Niwa R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                , immunocompetent cell activators or/and antitumor agents applicable in treating malignant tumor like melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (revised)
(first entry)
                                                                                                     HAKKO
                                                                                                                                                   91JP-00238375
                                                                                                                                                                                                   92EP-00116026
                                                                                                                                                                                                                                                                                                                                               21. .12
/note=
                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                             /note= "Signal peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein; 128
                                                                                                     KOGYO CO LTD
                                                                                                                                                                                                                                                                                                                                                                           .128
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                                                     Hasegawa M,
                                                                                                                                                                                                                                                                                                                                               "Mature protein"
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Pred. No. 9.1
0; Mismatches
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                                                  Miyaji H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB ,
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                                                     Kuwana
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RESULT 9
AAR53340
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Best Local (
Example 2 describes the construction of the vector pChi641HA1 for chimeric human antibody H chain expression. mRNA from mouse anti-GD3 monoclonal Ab KM641-producing cells was isolated and KM641 H and L chain cDNAs isolated. The base sequences of the Ig variable regions in KM641 H chain cDNA (pKM641HA3) and KM641 L chain cDNA (pKM641HA2) are given in AAQ45438-39. A KM641-derived chimeric human Ab H chain expression vector was constructed by joining the H chain variable region gene from pKM641HA3 to a vector for chimeric human Ab H chain expression using the
                                                                                                                                               Humanised cytocidal
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Monoclonal antibody; Ab; ganglioside GM2; chimera; chimeric antibody; expression vector; heavy; light; chain; hypervariable region; CDR; constant region; hybridoma; Ig; immunoglobulin; promoter; enhancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Humanised chimeric antibody prodn. against ganglioside cancers, such as melanoma, neuroblastoma, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; AAQ33258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KM641 H chain variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-NOV-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR53340 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 6;
                                                                                                                     Example 2; Page 115-116; 191pp;
                                                                                                                                                                                     N-PSDB;
                                                                                                                                                                                                                          Nakamura K,
                                                                                                                                                                                                                                                                               07-SEP-1992;
                                                                                                                                                                                                                                                                                                       07-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                           AU9346181-A
                                                                                                                                                                                                                                                                                                                                                                                                               Key
                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vectors.
                                                                                                                                                                                                                                                                                                                                 17-MAR-1994
                                                                                                                                                                                                                                                                                                                                                                                                 Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    were used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The sequences
                                                                                                                                                                                                                                                    (KYOW ) KYOWA HAKKO KOGYO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           human animal Ab variable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity tes 7; Conserv
                                                                                                                                                                                                 1994-126857/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              to correct
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                                                                                                                                                                                   AAQ45438.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ences given in AAR33256-57 represent rat heavy and light chain regions respectively. The DNA sequences encoding these proteins din the construction of humanised chimeric antibody expression In these humanised antibodies none of the amino acids of the no nimal by variable region have been changed. (Updated on 25-MAR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SHINSSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Page 30-31; 63pp; English
                                                                                                                                             antibody specific effect on cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                          Koike M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                             92JP-00238452.
                                                                                                                                                                                                                                                                                                       93AU-00046181.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PN
                                                                                                                                                                                                                                                                                                                                                                         1. .20
/label= sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein; 128 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
                                                                                                                                                                                                                          Shitara K,
                                                                                                                                                such
                                                                                                                                               for ganglioside GM2 - used for pauch as melanoma, neuroblastoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 37;
Pred. No.
                                                                                                                      English
                                                                                                                                                                                                                            Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB
11;
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                                                                                                                                                                                                                            Kuwana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
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                                                                                                                                                            used for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
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                                                                                                                                                                                                                            Hasegawa
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                                                                                                                                               producing a
and glioma.
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RESULT 11
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Best Local S
Matches 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                      This immunoglobulin region was isolated from pKM641LA2.A methionine codon, presumably the initiation codon ATG, was found in the vicinity of the 5' terminus and the sequence has a full length leader sequence. The chimeric human antibodies are useful in the treatment of cancer, especially that which is of neural ectodermal origin. In contrast to
                                                                                                                                                                             prior art constructs based on mouse monoclonal antibodies, the chimeric human antibodies do not cause anti-mouse immoglobulin production. The chimeric human antibodies have a prolonged half-life and a reduced frequency of adverse effects when compared to mouse monoclonal antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mua ap.
AAB01628;
                    AAB01628
                                                                                                                                                          Sequence 128 AA;
                                                                                                                                                                                                                                                                                     Example 1; Col 99; 188pp; English.
                                                                                                                                                                                                                                                                                                            Chimeric human antibody expression vectors.
                                                                                                                                                                                                                                                                                                                                           WPI; 1999-468416/39.
                                                                                                                                                                                                                                                                                                                                                                                                         07-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                              07-JUN-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US5939532-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antibody; nucleotide; genomic; hypervariable region; chimeric;
light chain; amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pKM641 LA2 immunoglobulin light chain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY28368 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           synthetic DNAs given
                                                                                                                                                                                                                                                                                                                                                                                      (KYOW ) KYOWA HAKKO KOGYO KK.
                                                                                                               Local Similarity
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                  standard;
                                                                                           YSSNLHS 7
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                                                                        YSSNLHS 76
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ilarity 100.0%;
Conservative (
                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                               Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry
                                                                                                                                                                                                                                                                                                                                                                                                         93US-00116778
                                                                                                                                                                                                                                                                                                                                                                                                                              95US-00483528.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein; 128
                  protein;
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                                                                                                                                                                                                                                                                                                                                                               Kuwana Y,
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                                                                                                                Score 37; DE
Pred. No. 11;
0; Mismatches
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                               Hasegawa M,
                                                                                                                          11;
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                                                                                                                 Indels
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RESULT 12
AAB81994
ID AAB81
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AC AAB81
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O3-JU
XX
Gangl
XX
KW Gangl
KW Cance
XX
OS Synth
XX
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                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                         The present sequence is a murine immunoglobulin light chain variable region from plasmid KM-641. The coding sequence was used in the creation of an expression vector, along with the sequence for a human antibody, to produce humanised chimaeric antibodies, which can be used to treat cancer. Humanised chimaeric antibodies are more effective than mouse antibodies as they do not provoke a reaction in the human and side effects, such as the formation of anti-mouse immunoglobulin antibody and the rapid half-life of the immunoglobulins, do not occur
                                                                                                                                                                                                                                                                                                                                                                                                                                                            New humanized chimera antibody KM-871 useful for treating cancer, comprises variable region of mouse monoclonal antibody, reactive with ganglioside and human antibody constant region.
                                                                                                                                                                                                                                                                                                     Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  de snw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Murine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-DEC-2000
                                              Ganglioside;
                                                                     Ganglioside
                                                                                             03-JUL-2001
                                                                                                                     AAB81994;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 14; Page 28-29; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-SEP-1991;
18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EP1013761-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mouse; immunoglobulin; L chain; light chain; variable humanised antibody.
                                                                                                                                            AAB81994 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Key
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000-402204/35.
                                                                                                                                                                                                        70
                                                                                                                                                                                                                                                     l Similarity
7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunoglobulin light chain variable region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAA51004
                                                                                                                                                                                                                              YSSNLHS 7
                                                                                                                                                                                                        YSSNLHS
                                                                                                                                                                                                                                                     100.0%;
ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hanai N,
                                                                     GD3 specific
                                             GD3; complementarity determining region; CDR; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91JP-00238375.
92EP-00116026.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99EP-00124345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label= mature_immunoglobulin_light_chain_V_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= signal_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hasegawa
                                                                      antibody
                                                                                                                                              128
                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                     Score 37; DB
Pred. No. 11;
D; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3
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                                                                      related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Miyaji
                                                                                                                                                                                                                                                                              DB
                                                                      protein #3
                                                                                                                                                                                                                                                                               ω
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                                                                                                                                                                                                                                                                              Length 128
                                                                                                                                                                                                                                                        Indels
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Synthetic

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RESULT 13
AAB81995
ID AAB81
XX AAB81
AC AAB81
DT 03-JI
DT 03-JI
DX Gang:
XX Gang:
XX Gang
KW Gang
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XX Synt
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Best Local S
Matches 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-SEP-1999; 99JP-00278291
06-APR-2000; 2000JP-00105088
 New human type cand derivatives
                                     N-PSDB; AAF86901.
                                                                         Hanai N,
                                                                                                                                  30-SEP-1999;
                                                                                                                                                                                                          WO200123432-A1
                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                    Ganglioside;
                                                                                                                                                                                                                                                                                             Ganglioside
                                                                                                                                                                                                                                                                                                                    03-JUL-2001
                                                                                                                                                                                                                                                                                                                                           AAB81995;
                                                                                                                                                                                                                                                                                                                                                                 AAB81995 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-SEP-2000; 2000WO-JP006774
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                                                                                                                       06-APR-2000; 2000JP-00105088
                                                                                                                                                          29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (KYOW ) KYOWA HAKKO KOGYO KK.
                                                  2001-266143/27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001-266143/27.
                                                                                                                                                                                                                                                                                                                                                                                                                              70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 7; Conserv
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                                                                                                КУОМА НАККО
                                                                                                                                                                                                                                                                                                                                                                                                                                                   YSSNLHS 7
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                                                                       Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shitara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
nilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                             GB3
                                                                                                                                                                                                                                                                     GD3;
                                                                                                                                                                                                                                                                                                                   (first
complementation-determining region-transplanted antibody sagainst ganglioside GD3, useful in diagnosis and therapy
                                                                                                                                  99JP-00278291
                                                                                                                                                                                                                                                                                           specific antibody related protein #4.
                                                                                                                                                                                                                                                                                                                                                                                                                              76
                                                                                                                                                                                                                                                                    complementarity
                                                                                                                                                                                                                                                                                                                                                                 protein;
                                                                                                KOGYO
                                                                         Nakamura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nakamura
                                                                                                                                                                                                                                                                                                                                                                   128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
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Pred. No. 11;
0; Mismatches
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                                                                                                                                                                                                                                                                   determining region;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                    CDR;
                                                                                                                                                                                                                                                                    antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
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RESULT 14
AAB81997
ID AAB81
XX AAB81
XX AAB81
XX AAB81
XX Gangl
XX
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Query Match
Best Local S
Matches 7
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Best Local S
Matches 7
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                                                                                                                                                                                                                                                                                                                                                                         The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
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                                                                                                                                                                                                                   Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ganglioside;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-JUL-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 1; Page 161-162; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
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DB; AAF86907.
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. Similarity 7; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GD3 specific antibody related protein #6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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                                            100.0%;
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Score 37; DB
Pred. No. 11;
); Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 37;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7
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                                                                                                         BB
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                                                                                                    Length 128;
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           Indels
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AAB81978
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                                                                                                                                                                                                                                                                                                                                                                                   New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                           AAB81996 standard;
                                                                                                                                                                                                                                                                   Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                     Example 1; Page 140; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hanai N,
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06-APR-2000; 2000JP-00105088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ganglioside; GD3;
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           Synthetic
                                         Ganglioside;
                                                              Ganglioside
                                                                                   03-JUL-2001
                                                                                                        AAB81996;
                                                                                                                                                                                                                                                                                                                                                                            activity in cancer.
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                                                              <u>6</u>
                                                                                                                                                                                                                         Conservative
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                                         GD3; complementarity determining region; CDR; antibody;
                                                                                  (first entry)
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RESULT 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                    30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ganglioside; GD3; complementarity determining region; CDR; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ganglioside
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06-APR-2000; 2000JP-00105088
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                                                                    N-PSDB;
                                                                                                                                         Hanai N,
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                                                                                                                                                                                        (KYOW ) KYOWA HAKKO
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                                                                    2001-266143/27.
DB; AAF86913.
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                                                                                                                                       Shitara K,
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                                                                                                                                                                                        KOGYO KK
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New human type complementation-determining region-transplanted and derivatives against ganglioside GD3, useful in diagnosis a

ed antibody. and therapy

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RESULT 18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification of the invention
                                                                                                                                                    The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                            New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 128 AA;
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                                                                                                       Sequence 128 AA;
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06-APR-2000; 2000JP-00105088.
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)B; AAF86895.
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                                                                                                                                                                                                                                          Page 153; 183pp;
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                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GD3
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                                                   100.0%;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 19
AABB1992
ID AABB1
XX
AABB192
AABB192
AABB192
AX
XX
AABB1
AABB1
XX
AABB1
AABB1
AABB1
XX
AABB1
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RESULT 20
AAB81998
ID AAB81
XX AAB81
XX AAB81
XX GAB81
XX GANG!
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                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 7; Conserv
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N-PSDB; AAF86892.
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06-APR-2000; 2000JP-00105088
 Synthetic
                                                                                     Ganglioside
                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hanai N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-APR-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ganglioside;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB81992;
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                                                   Ganglioside;
                                                                                                                       03-JUL-2001
                                                                                                                                                         AAB81998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-SEP-2000; 2000WO-JP006774.
                                                                                                                                                                                         AAB81998 standard; protein; 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1; Page 150-151; 183pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (KYOW ) KYOWA HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200123432-A1
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                                                                                                                                                                                                                                                                                                      YSSNLHS 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                standard;
                                                                                                                                                                                                                                                                               YSSNLHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Shitara K,
                                                                                                                                                                                                                                                                                                                                              100.0%;
ilarity 100.0%;
Conservative 0
                                                   GD3; complementarity
                                                                                                                       (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                               76
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein; 128 AA.
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                                                                                                                       entry)
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                                                                                                                                                                                                                                                                                                                                                                 Score 37;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Japanese.
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                                                                                                                                                                                                                                                                                                                                                                   DB
11;
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The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human type complementation-determining region-transplanted antibody derivatives against ganglioside GD3, useful in diagnosis and therapy e.g. tumors, with low antigenicity, little side effects but potent
                                                                GD3 specific antibody related protein #7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GD3 specific antibody related protein #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GD3; complementarity determining region; CDR; antibody;
determining region;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
      CDR;
      antibody;
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RESULT 21
ABU11003
ID ABU11
XX ABU11
XX ABU11
XX ABU11
XX ABU11
XX ABU11
XX Gangl
DT 04-FE
XX Gangl
XX
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New human type complementation-determining region-transplanted antibody and derivatives against ganglioside GD3, useful in diagnosis and therapy of e.g. tumors, with low antigenicity, little side effects but potent activity in cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes a monoclonal antibody which can react specifically with ganglioside GD3. The antibody and its derivatives are useful in the diagnosis and therapy of tumours, particularly cancer diagnosis. The present sequence is a protein used in the exemplification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-SEP-1999; 99JP-00278291.
06-APR-2000; 2000JP-00105088.
                    Drugs containing genetically-modified antibody against ganglioside GD: its fragment, immunocompetent cell activators or/and antitumor agents combination, applicable in treating malignant tumor like melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ganglioside GD3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified ganglioside GD3 antibody associated protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 3; Page 164-165; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAF86912.
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                                                                                                                                                                                                                                                                          29-MAR-2001; 2001JP-00097483
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (KYOW ) KYOWA HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001-266143/27.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention
                                                                                                                                                                                                                        KYOWA HAKKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YSSNLHS 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Shitara K,
                                                                                                                                                                     Niwa R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                           2002WO-JP003170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          anti-ganglioside GD3 antibody; tumour; melanoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein; 128
                                                                                                                                                                                                                           KOGYO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
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                                                                                                                                                                          Kanazawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nakamura
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Pred. No.
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                                                                                                                                                                          Z,
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                                                                          GD3
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RESULT 22
AAR52865
ID AAR52
XX AAR52
XX 27-AU
DT 27-AU
DT 27-AU
DT 25-MA
DT 09-SE
XX MONOC
KW MONOC
FT Pepti
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XX VIAL
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Best Local Similarity
Matches 7; Conserv
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25-MAR-2003
09-SEP-1994
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Monoclonal antibody N10; target binding polypeptide; scFv; scFv; single chain antibody; protein secretion; FLAG; Escherichia coli; antibody engineering; humanized antibody; influenza virus; neuraminidase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 128 AA;
                                                                                                                                                                                                      New target-binding polypeptide(s) used for diagnosis, etc. - have stable core polypeptide region with at least one target-binding covalently attached, opt. mutated to alter specificity, etc.
                                                                                                                                                                                                                                                                                                               N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                               Hudson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unidentified
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                                                                                                                                                        Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-SEP-1993;
                                                                                                                                                                                                                                                                                                                                          WPI; 1994-135515/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CSIR ) COMMONWEALTH SCI & IND RES ORG.
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BE,
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                                                                                                                                                                                                                                                                                                                                                                                       Lah M, K
Colman PM;
                                                                                                                                                        Page 41; 67pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                  Kortt A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entry)
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                                                                                                                                                        English.
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                  Irving RA,
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                                                                                                                                                                                                                                                                                                                                                                                                                  Atwell JL,
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An scFv fragment of NC10 (a monoclonal antibody that recognises influenza virus N9 neuraminidase) was expressed in Escherichia coli. The N-terminal Pells signal peptide directed the scFv fragment into the periplasm where it became associated with the insoluble membrane fraction. An octapeptide

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RESULT 23
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The invention discloses a composition comprising two or more isolated rat CC or human polynucleotides or a polynucleotide which represents a fragment, CC derivative or allelic variation of the nucleic acid sequence. Also CC claimed are a vector comprising the novel polynucleotide, a host cell CC comprising the vector, a method for identifying a nucleotide sequence CC which is differentially regulated in an animal subjected to pain and a CC kit to perform the method, an array, a method for identifying an agent CC that is differentially expressed in neuronal tissue of a first animal CC subjected to pain, a method for identifying a compound which regulates the expressed in neuronal tissue of a first animal CC method that regulates the activity of one or more of the polynucleotide sequence CC method for identifying a compound that regulates the activity of one or more of the polynucleotides, a method for producing a pharmaceutical composition, a CC method for identifying a compound or small molecule that regulates the activity in an animal of one or more of the polynucleotides given in the specification, a method for identifying a compound useful in treating CC pain and a pharmaceutical composition comprising the one or more or more or their antibodies. The polynucleotide or the compound that compound that activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating condulates its activity is useful for preparing a medicament for treating conductions.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New composition comprising preparing a medicament for
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01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
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BAYER AG.
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YTSNLHS 214
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or more isolated polypeptides, useful ating pain in an animal.
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Query Match Best Local S Matches 6

6 Similarity

Conservative

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Score 33; Pred. No. Mismatches

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                         acid sequence is useful in the detection and/or amplification of nucleic acid sequence, particularly to identify Lactococcus lactis or related species. The proteins of the invention are useful for the biosynthesis or biodegradation of a composition of interest. The invention helps research in lactic bacteria, particularly useful in the production of yogurt and cheese. Note: The sequence data for this patent is based on equivalent patent WO200177334 (published 18-OCT-2001) which is available in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences. (Updated on 29-AUG-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pain (e.g. spinal segmental nerve injury (Chung), chronic constriction injury (CCI) and spared nerve injury (SNI) in an animal (e.g. gene therapy). The sequence presented is a rat protein (shown in Table 2 of the specification) which is differentially expressed during pain. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic form directly from WIPO at
 Sequence 368 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biosynthesis; biodegradation; lactic bacterium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB55521 standard; protein; 368
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                                                                                                                                                                                                                   Claim 6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lactococcus lactis; IL1403
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16-MAY-2002
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                                                                                                                                                                        The present invention is related to a Lactococcus lactis nucleotide sequence (ABA90521) and related proteins (ABB53300-ABB55621). The nu
                                                                                                                                                                                                                                                           New nucleotide sequence useful in the identification
                                                                                                                                                                                                                                                                                                                    Bolotine
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85.7%;
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PN JP111
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PF 12-DI
XX WPI,
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RESULT 26
AAY69824
ID AAY69
XX AAY69
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                                                                                                                                                                                                                                                                                                                                       Matches
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                                                                                                                                                                                                                                                                                                                                                                                                               of a microbe, using the gyrase gene as the index. The method involves the microbe primers to amplify DNA from the microbe, which is then identified or detected depending on its base sequence. The method can be used to classify and identify an unidentified microbe strain rapidly and with high precision. The present sequence represents a gyrase protein
                                                                                                                                                                                                                                                                                                                                                                                         Sequence 474 AA;
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               FR2771011-A1
                                                    Human immunodeficiency virus 1.
                                                                                       Cytostatic; human immunodeficiency virus gp41 envelope protein; antibody; antiviral; vaccine; human; pathogenic retrovirus; immunodominant zone;
                                                                                                                                HIV-1 gp41 envelope protein amino acids 628-663 mutant
                                                                                                                                                            20-APR-2000
                                                                                                                                                                                      AAY69824;
                                                                                                                                                                                                                 AAY69824 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Identification and detection of a microbe -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY23802 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The specification describes a method for the identification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 12; Page 31-32; 42pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (KAIY-) KAIYO BIOTECHNOLOGY KENKYUSHO
                                                                               .mmune response; mutein.
                                                                                                                                                                                                                                                                                                                                    Local Similarity
les 6; Conserv
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FSSNLHS 127
                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 detection; microbe; gyrase gene; gyrase protein.
                                                                                                                                                                                                              peptide; 36 AA.
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                                                                                                                                                                                                                                                                                                                                                 89.2%;
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RESULT 27
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Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       invention relates to the generation of vaccine against the effects of infection, in humans or animals, and comprises a modified polypeptide containing at least part of an envelope protein of a pathogenic retrovirus. The polypeptide can enter a target cell via a membrane receptor for a host protein. The part of the envelope protein in includes at least a fragment of an immunodominant zone and contains at least one amino acid that is conserved in the immunodominant zone and present in the pathogenic retroviral strain. When unmodified, the polypeptide induces an immune response against both the immunodominant zone and the host protein, and the modified polypeptide induces such a response against the immunodominant zone only. The vaccines are particularly used to protect against human or feline immune deficiency viruses. The modified polypeptide may also be used to raise specific antibodies for treatment of retroviral infections, particularly in the early stages
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI;
                                                                                                                                                                                                                                      HIV1; glycoprotein 41; gp41; retrovirus; membrane receptor; immune response; envelope protein; retroviral infection; HIV infection; FIV infection; anti-HIV; virucide; cytokine; mutant; mutein.
                                                                                                                                                                                                                                                                                                     HIV1 glycoprotein 41 (gp41) mutant peptide #28
                                                                                                                                                                                                                                                                                                                                      01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 36
                                                               22-JUL-2002; 2002US-00198938
                                                                                              22-JUL-2002; 2002US-00198938
                                                                                                                              22-JAN-2004
                                                                                                                                                          US2004014046-A1
                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                        Human immunodeficiency virus 1.
                                                                                                                                                                                                                                                                                                                                                                      ADO10396;
                                                                                                                                                                                                                                                                                                                                                                                                  ADO10396 standard; peptide; 36 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This sequence corresponds to a mutant of amino acids 628-663 of the gp41 envelope protein of the human immunodeficiency virus type 1 (HIV-1). The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 4; Page 31; 37pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vaccine against retroviral infection containing modified envelope
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71.4%;
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RESULT 28
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Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a method of searching for and obtaining a vaccine against pathogenic effects related to infection of an animal or human host by a retrovirus capable of penetrating into a target cell of the host, the target cell possessing a membrane receptor for a protein of the host, comprising selecting as the vaccine a modified polypeptide that induces an immune response directed against the immunodominant region of an envelope protein and not against a protein of the host. The invention also relates to a vaccine obtained by the method, an antibody obtained by immunising a host with the aid of the vaccine, where the antibody recognizes the envelope protein and not the protein of the host and a pharmaceutical composition containing the antibody. The method is useful in obtaining vaccines for preventing the pathogenic effects related to a retroviral (e.g. HIV or FIV) infection. This sequence represents an HIVI glycoprotein 41 (gp41) mutant peptide used in the scope of the invention.
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                                                                                        Claim 5; SEQ ID NO 2715;
                                                                                                                                                    organisms.
                                                                                                                                                                      Identifying plant target proteins for herbicidally active compounds, comprising aligning and comparing nucleic acid or amino acid sequence from plant with nucleic acid or amino acid sequences from non-plant
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                                                                                                                                                                                                                                                                                                                                                                Weidler
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                                                                                     261pp + Sequence Listing; English
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Pred. No.
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                                                                                                                                                                          ino acid sequences
from non-plant
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gion of an
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The invention relates for herbicidally activ

active

to identifying target proteins ve compounds, comprising alignin

aligning and

(ABB90790-ABB94016) comparing

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RESULT 29
ADD14911
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Matches 6
direction, a cyst and root knot nematode responsive promoter and, optionally, a heterologous nucleic acid positioned downstream from the promoter. The cyst and root knot nematode responsive promoter preferably comprises the Nicotiana endo-1,4-beta-glucanase (EGase), Ntcel7, promoter and, optionally, a heterologous nucleic acid positioned downstream from the promoter and operably associated with it, where the heterologous nucleic acid encodes a product disruptive of nematode attack. Also claimed is a plant cell transformed with the construct making a transformed plant, comprising regenerating a plant from the construct, an Agrobacterium tumefaciens cell containing the construct comprising a plant from the construct, an plasmid, a microparticle carrying the construct, suitable for the ballistic transformation of a plant cell, a plant cell protoplast comprising the construct and a seed obtained from the transgenic plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nucleic acid or amino acid sequences from plant with nucleic acid or amino acid sequences from non-plant organisms using suitable search parameters, where plant sequences having an E-value greater by a factor of 3 than the E-value of most similar non-plant sequences are selected. The polypeptides or nucleic acids encoding them are useful for identifying modulators. The identified modulators are useful as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nucleic acid construct for controlling cyst and root knot nematodes, comprises a cyst and root knot nematode responsive promoter and optionally a heterologous nucleic acid.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N. tabacum Ntcel2 protein.
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                                                                                                                                                                                                                                                                                                                                                                                                  The invention discloses a nucleic acid construct comprising, 3' direction, a cyst and root knot nematode responsive promot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; SEQ ID NO 2; 32pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-OCT-2001; 2001US-00970367.
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YSSSLHS 12
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nilarity 85.7%;
Conservative
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The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:
(1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for proliferation; (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The heterologous nucleic acid segment may be a gene encoding for an insecticidal protein, preferably a Bacillus thuringiensis crystal protein toxic to insects, but may be a product toxic to the plant cell. The transgenic plant is a dicot or monocot, preferably a tobacco (Nicotiana tabacum) plant. The construct is used for making a transgenic plant, such as a tobacco plant, that is resistant to cyst and root knot nematodes. An advantage of the invention is that two or more promoters can be daisy-chained to a single structural gene. The sequence presented is the N. tabacum Ntcel2 protein.
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06-SEP-2001; 2001US-00948993.

25-OCT-2001; 2001US-0342923P

08-FEB-2002; 2002US-00072851.

06-MAR-2002; 2002US-0362699P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB;
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DB; ACA29330.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zamudio C,
Trawick JD,
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                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 53384; 1766pp; English.
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Carr G
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85.7%;
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Forsyth RA,
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Xu HH;
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RESULT 31
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Best Local S
Matches 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          organism acts; (9) manufacturing an antibiotic; (10) profiling a compound's activity; (11) a culture comprising strains in which the gene compound is overexpressed or underexpressed; (12) determining the extent to which each of the strains is present in a culture or collection of strains; or (13) identifying the target of a compound that inhibits the proliferation of an organism. The antisense nucleic acids are useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       required for proliferation, or that inhibits cellular proliferation; (8 identifying a gene required for cellular proliferation or the biologica pathway in which a proliferation-required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 277 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        Campylobacter jejuni; OH4384.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acetyltransferase; glycosyltransferase; Beta-1,4-GalNAc transferase;
Beta-1,3-galactosyltransferase; alpha-2,3-sialyltransferase;
sialic acid synthase; CMP-sialic acid synthetase; mimic; antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY97205;
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                                                                                                                                                  N-PSDB; AAA53722, AAA53720.
                                                                                                                                                                                                                                                                                    31-JAN-2000; 2000US-00495406.
                                                                                                                                                                                                                                                                                                        01-FEB-1999;
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                                                                                                                                                                                                                                                                                                                                                                                   10-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biosynthetic locus; biosynthesis; lipid A biosynthesis;
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22-DEC-2000
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                                                                                                                                                                                                                                                   (CANA ) NAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mmunity; immunogen; ganglioside
                                                                                                                                                                        2000-524418/47
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5; Conserv
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(first en
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83.3%;
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Pred. No.
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A reaction mixture for the synthesis of a sialylated oligosaccharide

Novel glycosyltransferase polypeptides and polynucleotides useful for biosynthesis of ganglioside and ganglioside mimics, as diagnostic reagents and as immunogen for producing antibodies.

Claim 13;

Page 100-101; 120pp; English.

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RESULT 32
ABJ18486
ID ABJ18
XX ABJ18
AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CC useful for synthesising sialylated oligosaccharide such as ganglioside, CC lysoganglioside or their mimics. Glycosyltransferases are useful for CC chemo-enzymatic synthesis of oligosaccharides, including gangliosides and other oligosaccharides that have biological activity. The enzymes and CC mucleic acids that encode them are useful for studies of the pathogenesis CC mechanisms of organisms that synthesize ganglioside mimics, such as C. CC jejuni and the nucleic acids are used as probes to study expression of CC genes involved in ganglioside mimetic synthesis. Antibodies raised CC against the glycosyltransferases are also useful for analyzing the CC expression patterns of these genes involved in pathogenesis. The nucleic cids are also useful for designing antisense oligonucleotides for CC inhibiting expression of the Campylobacter enzymes that are involved in the host's immune system. The oligosaccharides are useful as diagnosing CC Bacterial glycosyltransferase and as immunogens for producing antibodies. Bacterial glycosyltransferase can be used to carealyse the formation of cligosaccharides that are identical to the corresponding mammalian CC guantity, compared to the mammalian glycosyltransferase. The bacterial CC origin of the enzymes facilitates expression of large quantities of the enzymes facilitates expression of large quantities of the corresponding mammalian CC correspondes using relatively inexpensive prokaryotic expression systems.
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Best Local
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                                                                        New glycosyltransferases from Campylobacter, useful for synthesizing gangliosides and ganglioside mimetics, and in studying the pathogenesis mechanisms of organisms that synthesize ganglioside mimetics.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ganglioside mimetics;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 347 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-FEB-2002; 2002WO-CA000229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-SEP-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CMP sialic acid synthetase; acetyltransferase; ganglioside synthesis;
                                                                                                                                                                                                                                                    2003-040554/03.
DB; ABT13673.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            268 FSSNIHS 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 YSSNLHS 7
                                                                                                                                                                                                                                                                                                                                                                       3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene therapy; acyltransferase; glycosyltransferase; transferase; N-Acetylgalactosamine transferase;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAT RES COUNCIL CANADA
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                                                                                                                                                                                                                                                                                                                                                                            Wakarchuk WW
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83.8%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             inflammation; tumour metastasis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
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Claim

5; Page 101; 107pp;

83.8%;

Score

31;

ВB 6

Length

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RESULT 33
ABP80364
ID ABP80
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Best Local
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                                                                                                                 The present invention relates to proteins from Neisseria gonorrhoeae. Also disclosed are the nucleic acid molecules encoding the proteins antibodies that specifically bind to the proteins. The composition comprising the protein, nucleic acid or antibody is useful for the manufacture of a medicament for treating or preventing N. gonorrhoeae infection, this may be in the form of a vaccine or gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N. gonorrhoeae amino acid sequence SEQ ID 7258.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-MAR-2003
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Sequence 380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                        New protein from Neisseria gonorrheae, useful for the manufacture medicament for treating or preventing N. gonorrheae infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Antibacterial; infection; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABP80364;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABP80364 standard; protein; 380 AA
                                                          molecules of the invention
                                                                                                                                                                                                                                                                                                                                          Disclosure; Page 716; 815pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fontana MR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-FEB-2001; 2001GB-00003424
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Neisseria gonorrhoeae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 jejuni protein of the invention
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DB; ABZ41334.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pizza M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPA.
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71.4%;
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                                                                                                 ABP76736-ABP81046
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Pred. No. 5.7e
2; Mismatches
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5.7e+02
                                                                                             represent nucleic acid
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RESULT 34
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KW INTER
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                                                                                                                                                                                             The present invention relates to oligonucleotides (see AAL26793-AAL34659) CC encoding polymorphic variants of proteins related to amylases, amyloid proteins, angiopoietin, apoptosis related proteins, cadherin, cyclin, cc proteins, angiopoietin, apoptosis related proteins, cadherin, cyclin, cc polymerase, oncogenes, histones, kinases, colony stimulating factors, cc interferons, interleukins, cytochromes, kinesins, cytokines, cc interferons, interleukins, G-protein coupled receptors and thoesterases. CC The present sequence is a peptide encoded by one such oligonucleotide. CC The oligonucleotides and the peptides encoded by them may be used in the prevention, diagnosis and treatment of diseases associated with cc inappropriate expression of the proteins listed above. Disorders that may be prevented, diagnosed and/or treated include multifactorial diseases cwith a genetic component, such as autoimmune diseases (e.g. rheumatoid CC with a genetic component, such as autoimmune diseases (e.g. rheumatoid CC arthritis, multiple sclerosis, diabetes, systemic lupus erythromatosus CC and Grave's disease, inflammation, cancer (e.g. cancers of the bladder, CC brain, breast, colon and kidney, leukaemia), diseases of the nervous cc system and an infection of pathogenic organisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 71.4
Matches 5; Conservative
Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complement related protein; cytochrome; kinesin; cytokine; interferon; interleukin; G-protein coupled receptor; thioesterase; inflammation; multifactorial disease; autoimmune disease; infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunosuppressive; immunostimulatory; antiinflammatory; cytostatic; neuroprotective; antimicrobial; gene typy; vaccine; amylase; cancer; amyloid protein; angiopoietin; apoptosis related protein; cadherin; cyclin; polymerase; oncogene; histone; kinase; colony stimulating factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Polymorphic nucleic acids encoding e.g. amylases, cyclins, polymerases, oncogenes and histones, useful for diagnosing and treating, e.g. cancer, autoimmune diseases and infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Shimkets RA,
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27-DEC-2000; 2000US-00173419.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 3823; 4143pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         48
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   81.1%; Score 30;
100.0%; Pred. No.
Live 0; Mismatc
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2; Mismatches 0;
                                    DB 4;
25;
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                                                                     Length 14
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RESULT 35
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                                                                                                                                                                                                                                              The invention relates to a composite binding polypeptide comprising a compression of first natural binding domain derived from a first natural binding composition and a second natural binding copolypeptide and a second natural binding polypeptide, where the first and second natural binding polypeptide, where the first and second natural binding polypeptides may be the same or different and where the polypeptide binds to a target differing from the natural target of both the first and second binding polypeptides. The invention also relates to a chimeric polypeptide comprising a binding polypeptide cited above and a biological effector domain, a library of natural binding domains, a library of natural binding domains comprising a linker can attached to it, a method for selecting a binding polypeptide capable of binding to a target site and a method for designing a composite binding polypeptide. The methods and compositions of the present invention are useful for designing sequence-specific binding proteins for regulation of gene expression in the fields of molecular biology. They can also be used for the diagnosis and treatment of autoimmune disorders, and as research tools and in transgenic animals. This sequence represents a human zinc finger DNA binding domain used in the scope of the invention
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                                                                                                                                                                                            Sequence 23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        autoimmune disorders.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-APR-2001; 2001GB-00008491
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-AUG-2003 (first entry)
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CC (referred to as open reading frame, ORFX, where X is 1-11491 (see Table 1 CC (referred to as open reading frame, ORFX, where X is 1-11491 (see Table 1 CC in the specification). ABN15762 to ABN27252 encode the human ORFX CC proteins given in ABP00010 to ABP11500. ORFX proteins are useful for CC treating or preventing a pathology associated with an ORFX-associated CC disorder in humans, and in the manufacture of a medicament for treating a CC syndrome associated with ORFX-associated disorder. ORFX polynucleotide CC sequences can be used in gene therapy. ORFX sequences can be used in the CC sequences can be used in gene therapy. ORFX sequences can be used in the CC sequences can be used in the CC seconthritis, neurodegenerative disorders, cirrhosis of liver, CC psoriasis, benign tumours, keloid, degenerative disorders related to organ CC transplantation, cardiovascular disease, diabetes mellitus, systemic CC useful servitement of cardiovascular diseases, diabetes mellitus, systemic CC transplantation, hypertension, hypothyroidism, cholesterol ester Storage disease, various immune deficiencies and disorders, infectious CC disease, autoimmune thyroiditis, myasthenia gravis, graft-versus-host CC disease and autoimmune inflammatory eye disease. ORFX proteins are also cuseful for treating burns, incisions, ulcers, for treating osteoporosis, bone degenerative disorders, or periodontal disease, and for gut proteins are also cuseful for treative disorders, or periodontal disease, and for gut proteins are also constituted proteins disease, and for treating from CC systemic cytokine damage. N.B. The sequence data for this patent did not format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences XX
                   Query Match
Best Local Similarity
    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel human polypeptides and polynucleotides useful for diagnosing, preventing and treating cardiovascular disease, neurodegenerative, hyperproliferative disorders and autoimmune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    degenerative disorder; osteoarthritis; neurodegenerative disorder; cardiovascular disease; diabetes mellitus; systemic lupus erythematosus; hypertension; hypothyroidism; cholesterol ester storage disease;
                                                                                Sequence 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-MAY-2000; 2000US-0206132P.
29-AUG-2000; 2000US-0228716P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human ORFX protein sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; SEQ ID NO 6662; 1037pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                disorder; rheumatoid arthritis; autoimmune thyroiditis
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  Conservative
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                     81.1%;
71.4%;
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                     Score 30; DB 5;
Pred. No. 1.2e+02;
  Mismatches
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  Indels
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                                                     cc pustulosis, hypertosis and osteomyelitis), uveitis and endopthalmitis.

cc P. acnes is also involved in infections of bone, joints and the central congrous system, however it is particularly involved in the inflammatory constants are such as a particularly involved in the inflammatory constants are such as a particularly involved in the inflammatory constants are such as a particularly involved in the inflammatory constants are such as a particularly involved in the inflammatory constants are such as an aparticularly involved in the invention of sample with a binding agent that binds to the proteins of the invention and determining the amount of bound protein in the sample. The conjugation of a sample are such as antigens in the production of antibodies conjugates are spreading and activity of P. acnes polypeptides and constitutive of P. acnes polypeptides and constitutive of the antibodies may also be used as conjugated treat P. acnes infections. The antibodies may also be used as conjugated in a gents for determining P. acnes presence, for example, by conjugated in did not form part of the printed specification, but was constant and ender the printed specification, but was constant and increated pot sequences are supposed to the printed specification, but was constant of the printed specification, but was constant and provided the printed specification and constant published pot sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-APR-2000; 2000US-0199047P
02-JUN-2000; 2000US-0208841P
07-JUL-2000; 2000US-0216747P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequences AAU39105-AAU68017 represent Propionibacterium acnes immunogenic polypeptides. The proteins and their associated DNA sequences are used in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Propionibacterium acnes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SAPHO syndrome; synovitis; acne; pustulosis; hypertosis; osteomyelitis uveitis; endophthalmitis; bone; joint; central nervous system; ELISA; inflammatory lesion; acne vulgaris; enzyme linked immunosorbent assay;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Propionibacterium acnes immunogenic protein #19953
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P. acnes. The disorders include SAPHO syndrome (synovitis, acne,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           polypeptides. The proteins and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 1; SEQ ID NO 20252; 1069pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   treating acne vulgaris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Propionibacterium acnes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the treatment,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CORI-) CORIXA CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001-616774/71.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ASSNIHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Persing DH, Persing DH, Persing DH, Phane
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             prevention and diagnosis of medical conditions caused
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polypeptides and nucleic acids useful for diagnosing infections, especially useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mitcham JL, Wang SS,
, Jen S, Carter D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
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Query Match
Best Local Similarity
Matches 6; Conserv

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81.1%; Score 30; 100.0%; Pred. No.

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